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THE

JOURNAL

OF

THE ASIATIC SOCIETY

OF

BENGAL.

VOL. II.

THE

JOURNAL

OF

THE ASIATIC SOCIETY

OF

BENGAL.

EDITED BY

JAMES PRINSEP, F. R. S.

SECRETARY OF THE ASIATIC SOCIETY.

VOL. II.

JANUARY TO DECEMBER,

1833.

"It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta; it will languish, if such communications shall be long intermitted; and it will die away, if they shall entirely cease."

SIR WM. JONES.

Calcutta:

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1833.

PREFACE.

On completion of this second volume of the Journal of the Asiatic Society, the Editor feels it to be due to his subscribers, as well as to himself, to lay before them as briefly as possible, the results of the arrangements which he contemplated carrying into effect at the conclusion of the last volume;—more especially as a somewhat erroneous estimate of the cost and circulation of the Journal found admission into a late notice of the Indian Periodical Press, drawn up by the Editor of one of the morning papers. The Journal is not published, as there stated, by the Asiatic Society, but solely at the cost and responsibility of the Secretary, who was Editor of it before he enjoyed the honour of an election to that office. Since there never has been the least view to profit, either in the Gleanings or in the present work, there can be no object whatever in concealing any information respecting its publication; and it may be useful hereafter to find on record a note of the expences of printing, and the difficulties against which a Journal exclusively scientific has had to contend, as well as the advantages which it has enjoyed, in India at the present time. The following particulars have therefore been extracted from the accounts of the two years now terminated.

The amount of subscriptions to the Journal at one rupee per number, including two extra numbers, in 1832, was .... Rs.		5148 8
From this, deducting 20 per cent. commission paid to Messrs. Thacker and Co. for circulating it, ...		1028 11
There remained net subscriptions available, Rs.		4114 13
The Baptist Mission Press charged for printing and stitching 500 copies, Rs.	3742 10	
And the 15 plates cost with printing,	416 5	
Total		4178 5

The result of the first year exhibits a sufficient accordance between outlay and return. Of the amount subscribed however, only Rs. 3786 13 have been collected up to the present time, so that in fact there was a deficit of Rs. 392 2.

The alterations which the Editor proposed and completed for the second year were :—

1. The saving of nearly half of the commission paid for the mere circulation of the work (without responsibility), by undertaking that duty with the aid of his establishment as Secretary of the Asiatic Society;

2. As a return for this favor, he proposed circulating the Journal gratis to such of the paying members as should express a desire to take it in.

The effect of this scheme has been as follows :

Fifty members of the Society have availed themselves of the privilege, which has made a deduction to the same amount from the monthly receipts. The number of copies circulated, including those sent to subscribers and societies in Europe, is about 450.

The number of paying subscribers on the list, is 320, which at 1 R. per month, (including one extra number of Buchanan,) would give Rs. 4480.

The expenses of printing 500 copies, of 670 pages,

at 4-5 per page, may be stated at	Rs.	2,890
144 pages of Buchanan, at 4-8 per page,.....		648
Covers, table work, &c. charged extra, ...		250
40 pages of Appendix, at 5 Rs.....		200
28 plates (18 lithographs, 10 engravings*), ...		480
Establishment for circulation, ...		600
	——	5,068

Leaving a loss on the year of Rs. 588, or nearly as much as the subscriptions of the members exempted from paying.

But it must be mentioned, and mentioned with a degree of disappointment which is almost disheartening, that of the flattering list of sub-

* For these the cost of printing and paper only is charged.

scribers above given, 70 have not paid any part of the year's subscription, and as many more are still in arrears; so that a balance of Rs. 1321-8 still remains to be collected. The actual state of the concern is therefore by no means so favorable as could be wished, for it leaves the Editor out of pocket upwards of 2000 Rs. as the reward of his labour for two years ! B əɥ ʇnwill not for a moment suppose that the balances outstanding are not recoverable: on the contrary the principal difficulty lies in the distance, and the supposed want of a mode of remittance.—Many subscribers are not aware, that letters containing hoondees for the amount may be transmitted *post free* to the Editor.

It will be remembered, that the Bengal Government were pleased to bestow the privilege of free postage on the GLEANINGS and on the JOURNAL, on condition of the publication of the late Dr. Buchanan's Statistical Reports. Under the impression (justly formed) of a corresponding increase of circulation, consequent upon this liberal boon, it was resolved not to incorporate these records in detached notices in the JOURNAL, nor to diminish from its original matter*, but to publish them as a separate work; and one volume has accordingly been completed, containing 356 pages, which at 4-8 per page have cost Rs. 1,602

And a reprint of the first 108 pages, which became necessary on the subsequent extension of the edition from 300 to 500 copies, 216

Total, Rs. 1818

This expence has been incurred therefore on account of Government, in return for the postage saved, not to the work, but to the subscribers of the JOURNAL. On the completion of the first volume of BUCHANAN, a second extra volume of an official nature on the Monetary System was commenced, of which 50 pages have been printed with 3 plates, being in fact an expence of more than 300 rupees not included in the above estimate. The Government meantime placed the remaining volumes of Buchanan in the Editor's hands, with an intimation of its "desire that the printing of these records should be continued." It was therefore with no small feeling of mortification that

* Originally 32 pages only were given in each number, latterly 64.

the EDITOR perused the following letter, announcing that the privilege of free postage should cease from June next, especially after having been honored, on an explanation of the nature of the work, with an extension of the same privilege to the Madras presidency, in addition to that formerly bestowed by the Governors of Bombay and Ceylon.

To JAMES PRINSEP, Esq.

Editor of the Journal of the Asiatic Society,

Genl. Dept.

Sir,

I am directed to inform you, that the Governor General in Council has resolved, that after six months the exemption from postage, which is now enjoyed by the Journal of the Asiatic Society, shall be discontinued.

I have the honor to be,
Sir,
Your most obedient servant,
G. A. BUSHBY,
Offg. Sec. to Govt.

Council Chamber,
2nd Dec. 1833.

It may reasonably be feared that many subscribers at distant stations may be unable to continue their support to the work, when its cost shall be enhanced by postage; but (should it be impossible, on a proper and respectful representation of the circumstances, to avert the imposition of postage) every means will be taken of lessening the burthen by sending the monthly numbers by the bangy instead of the regular dâk.

On the contents of a volume which has already been perused by nearly all to whom it circulates, it would have been obviously needless to make any remark, were it not desirable to prove that the favors hitherto conferred upon the work by the Government of the country had not been altogether misapplied.

Independently of the volume of Dinajpur Statistics, which forms a model for the use of public officers engaged in collecting similar information, the GLEANINGS and the JOURNAL have been the means of bringing to notice many of the mineral resources of our vast Indian Empire, and of leading to fresh discoveries by the announcement of what had already been found: coal may be adduced as an example,—of which twenty or more different localities have been brought to our knowledge through its pages, where only two were before known. Of the native mineral productions, iron, copper, gold, &c.:—Of the native arts and manufactures, salt, nitre, turpentine, dyes, mills, &c. numerous original ac-

counts have been inserted : catalogues of woods, medicinal plants and drugs : experiments on materials, wood, iron, cement ;—Statistical reports ;—descriptions of newly explored countries and people :—in fact, it would be difficult to open a number of the JOURNAL without finding some information which must possess value in the eyes of a government. Contributions of a more exclusively scientific nature have, in the mean time, continued to multiply, and the objects pointed out as desiderata at home in the geography, meteorology, geology, and natural history of this country, are in the course of rapid and systematic elucidation. So numerous for instance have been the registers of the weather offered for publication, that space could only be found for abstracts of many. There has hardly been time for the collection of materials regarding the tides of the Indian coasts, suggested in the Rev. Professor WHEWELL's circular, (inserted in page 151,) but the attention of those who have opportunities of eliciting the information required, is again solicited to this object.

As a proof of the benefit conferred on science by the free and extensive circulation of a periodical devoted to such objects, the Editor feels pride in alluding to the ardour which his plates of ancient coins have inspired in many active collectors, and above all to the reward bestowed on himself by the munificence of General VENTURA, the most successful pursuer of antiquarian research in the Panjáb, who has presented to him all the coins and relics discovered on opening the celebrated Tope of Manikyala. They are now on their way to Calcutta.

That extracts and analyses of European science have not been more frequent must be attributed once more to want of space and want of leisure. The Editor would recommend all who seek for knowledge of the progress of science in Europe to procure a copy of the Reports of the British Association for 1832, in which they will find every branch discussed by the philosopher best able to give it illustration. To attempt to shorten those admirable essays would be mutilation rather than abridgment ; yet unfortunately most of them are too long for the pages of a monthly journal.

On the subject of orthography of native words, the Editor is driven to make one concession, for which he fears the learned Societies at home

will denounce him as an apostate to the system of their leader. Every communication, with hardly any exception, which comes for publication, adopts the Gilchristian mode of spelling, or that modification of it which has been *ordered* to be used in all Government records, surveys, &c. An attempt has been made hitherto to conform the whole to Sir William Jones' method, but necessarily there have been continual omissions, and the contributors in most cases express themselves but ill pleased to see their words transformed into shapes but ill accordant with ordinary *English* pronunciation. The Editor has therefore resolved to adopt the middle course followed in Hamilton's Hindustan, namely, to print all Indian names and words in the ordinary roman type as they are usually written and pronounced, and to place in italics all such native terms and proper names, as are corrected, and spelt according to the classical standard of Sir William Jones : in many cases the latter may be inserted in brackets after the ordinary word.

Where contributors have occasion to illustrate their papers by plates, it will be a great convenience to the Editor to have the original drawings prepared of the same dimensions as the printed page of letter press, to save the trouble and expence of reducing them.

The Editor will not allude in this place to the severe loss he has sustained in the death of some of the most able and constant supporters of his work, and the departure to Europe of others in the course of the past year; since he hopes that a more worthy channel will be found for the record of their meritorious labours for the cause of Science in India, in the Proceedings of the Asiatic Society, to which their names belong, and in which their reputation must ever be cherished with fond remembrance.

1*st January*, 1834.

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CONTENTS.

No. 13.—JANUARY.

Page.

I.—Continuation of the Route of Lieut. A. Burnes and Dr. Gerard, from Péshá-war to Bokhára. 1

II.—On the Manufacture of Saltpetre, as practised by the Natives of Tirhút. By Mr. J. Stevenson, Supt. H. C.'s Saltpetre Factories in Behar. 23

III.—On the Greek Coins in the Cabinet of the Asiatic Society. By James Prinsep, Secretary. 27

IV.—Eclipses of Jupiter's Satellites... 41

V.—A method of preparing Strychnia. By J. T. Pearson, Esq. Assistant Surgeon. 42

VI.—Proceedings of the Asiatic Society. 43

VII.—Miscellaneous.

1.—Hot-spring at Pachete. By C. Betts, Esq... 46

2.—Extraordinary Banyan Tree at Kulow Nagty Hally, near Bhuoma Naik Droog, in the territory of Mysore... 47

3.—Discovery of the Silhet Coal Mines... .. .. *ib.*

4.—Questions proposed by the Burmese Heir Apparent. .. .. .. *ib.*

VIII.—Progress of Astronomical Science. 48

IX.—Meteorological Register. 56

No. 14.—FEBRUARY.

I.—Note on the Origin of the Kala-Chakra and Adi-Buddha Systems. By Mr. Alexander Csoma de Körös... 57

II.—Journal of a March from Ava to Kendat, on the Khyendwen River, performed in 1831, by D. Richardson, Esq. Assistant Surgeon of the Madras Establishment, under the orders of Major H. Burney, the Resident at Ava. .. 59

III.—Trisection of an Angle. By Lieut. Nasmyth Morrieson, W. S. 71

IV.—Short Description of the Mines of Precious Stones, in the District of Kyat-pyen, in the Kingdom of Ava. 75

V.—Note on Saline Deposits in Hydrabad. By Assistant Surgeon J. Malcolm-son, Madras European Regiment. 77

VI.—An Experimental Inquiry into the Means employed by the Natives of Bengal for making Ice. By T. A. Wise, Esq. M. D. 80

VII.—Proceedings of the Asiatic Society... 91

VIII.—Systematically arranged Catalogue of the Mammalia and Birds belonging to the Museum of the Asiatic Society, Calcutta. By Dr. W. Warlow. .. 96

IX.—European Notices of Indian Natural History.

1.—The Dugong. 100

2.—Nipal Specimens. 101

X.—Meteorological Table for February. 104

Page.

No. 15.—MARCH.

I.—On the Restoration of the Ancient Canals in the Delhi Territory. By Major Colvin, Engineers... 105
II.—Abstracts of Observations of the Temperature, Pressure, and Hygrometrical State of the Air at Nasirabad. By Major T. Oliver... 128
III.—Determination of the Constant of Expansion of the Standard 10-feet Iron Bar of the great Trigonometrical Survey of India; and Expansions of Gold, Silver, and Copper by the same Apparatus. By James Prinsep... 130
IV.—Continuation of Dr. Gerard's Route with Lieut. Burnes, from Bokhára to Meshid... 143
V.—Proceedings of the Asiatic Society. 149
Whewell's Desiderata on the subject of Tides... 151
VI.—Madras Literary Society. 154
VII.—Miscellaneous.
1.—Indian Botany... 156
2.—Indian Geology. 157
3.—Indian Arts and Manufactures. 158
4.—Note on Lieut. Burt's Instrument for trisecting Angles. 159
VIII.—Meteorological Register for March. 160

No. 16.—APRIL.

I.—Account of the Jain Temples on Mount Abú in Guzerát. By Lieut. Burnes, Bombay Army... 161
II.—List of Indian Woods collected by N. Wallich, M. D., F. R. S., Corresponding Member of the Royal Institute of France, and the Academy of Sciences at Berlin, &c. and of the Society of Arts of London; Superintendent of the Botanic Garden at Calcutta... 167
III.—Table for Ascertaining the Heights of Mountains from the boiling point of Water. By James Prinsep, Sec., &c... 194
IV.—Translation of a Tibetan Passport, dated A. D. 1688. By M. Alex. Csoma de Körös. 201
V.—Proceedings of the Asiatic Society. 203
VI.—Miscellaneous.
1.—Indian Meteorology. 206
2.—Indian Arts and Manufactures. 209
3.—Phenomenon of the Japanese Mirror. 214
VII.—Meteorological Register for April. 216

No. 17.—MAY.

I.—Origin and Classification of the Military Tribes of Nipal. By B. H. Hodgson, Esq... 217
II.—Description of Bokhára. By Lieut. A. Burnes, Bombay Army, Assistant Resident at Kutch. 224
III.—On the Climate of Nagpúr. By W. Geddes, Surgeon, Mad. Eur. Reg... 239
IV.—Table shewing the Rise of Spring Tides in Bombay Harbour, during night and day, for the year 1832, communicated by Ben. Noton, Esq... 247
V.—On the Native Manufacture of Turpentine. 248
VI.—Description of a Sun Dial in the Court of the Moti Masjid, in the Fort of Agra. By Capt. J. T. Boileau, Engineers... 251
VII.—Catalogue of the most remarkable Celestial Objects visible in the Horizon of Calcutta, arranged in order of Right Ascension... 252
VIII.—Description of a Compensation Barometer, and Observations on Wet Barometers. By J. Prinsep, Sec., &c... 258

Page.
IX.—Proceedings of the Asiatic Society. 262
X.—Miscellaneous.
1.—Rustic Bridge. 267
2.—Remarks on the Paper on the Trisection of an Angle in No. 14. of the "Journal of the Asiatic Society.". 268
3.—New Patent Improved Piano-Forte. 269
4.—Specific Gravity of Metallic Alloys. 270
5.—Proportion of Recent and Fossil Shells. .. .. *ib.*
6.—Table of the Lengths in British Miles of the Degrees of Latitude and Longitude from 0° to 30°, with the Areas bounded by them in Square Miles... 271
XI.—Meteorological Register for May. 272

No. 18.—JUNE.

I.—On the Marriage Rites and Usages of the Játs of Bharatpúr. By G. T. Lushington, C. S. 273
II.—Report on the Geology of Hyderabad. By H. H. Voysey, Esq. Surgeon and Geologist to the Great Trigonometrical Survey of India, 1819. 298
III.—On the reputed Descendants of Alexander the Great, in the Valley of the Oxus. By Lieut. Alexander Burnes, Bombay Army. 305
IV.—On the "Topes" and Grecian Remains in Panjáb. By Lieut. Burnes, Bombay Army. 308
V.—Note on Lieutenant Burnes' Collection of Ancient Coins. By James Prinsep, Sec., &c. 310
VI.—Astronomical Observations at Barelly. By H. S. Boulderson, Esq. 318
VII.—Notice of a Native Sulphate of Alumina from the Aluminous Rocks of Nipal. By J. Stevenson, Superintendent H. C. Saltpetre Factories in Behar. 321
VIII.—Notice of a Native Sulphate of Iron from the Hills of Behar, and used by Native Dyers of Patna. By Ditto. 321
IX.—Notice of Analysis of the Ashes of four Indian Plants. By Ditto. .. 322
X.—Proceedings of the Asiatic Society. 323
XI.—Miscellaneous.
Synopsis of the Winds, Weather, Currents, &c, between Bombay and Suez, throughout the Year. By Capt. J. P. Sanders, Bombay. 325
XII.—Meteorological Register for June. 328

No. 19.—JULY.

I.—The Birth of Umá—a Legend of Himaláya—by Cálidása. 329
II.—Description of the Pan-chaki or Native Water-mill. 359
III.—Description of the Salt Works at Panchpadder, Mewár. By Lieut. A. Burnes, Bombay Army. 365
IV.—Proceedings of the Asiatic Society. 367
V.—Report of the Committee appointed on the 27th March, 1833, to consider on the expediency of recommending to the Government the continuance of the Boring Experiment. 369
VI.—Miscellaneous.
1.—Remarks on Hutton's Mathematics. 374
2.—The Royal Society. 375
3.—Discovery of a Bed of Fossil (Marine?) Shells on the Table Land of Central India. 376
4.—Indian Zoology. 377
VII.—Analysis of Books.—Taylor's Astronomical Observation at Madras. .. 380

Page.

VIII.—Meteorological Table kept at Bancoora, for the year 1832, by John Mac-Ritchie, Esq. 383
IX.—Meteorological Register for July. 384

No. 20.—AUGUST.

I.—Origin of the Shákya race, translated from the ལ (*La*), or the 26th, volume of the *m*Do class in the Ká-gyur, commencing on the 161st leaf. By M. Alex. Csoma de Körös,.. 385
II.—Second Report on the Geology of Hyderabad. By H. W. Voysey, Esq. Surgeon and Geologist to the Trigonometrical Survey of India, dated Secanderabad, the 28th June, 1820. 392
III.—Bactrian and Indo-Scythic Coins—continued. By James Prinsep, F. R. S. Sec. As. Soc. 405
IV.—Note on the Zoology of the 2nd Part of the Transactions of the Physical Class of the Asiatic Society of Bengal,.. 417
V.—Note on the extraordinary Fall of the Barometer during the Gale of the 21st May last. By James Prinsep, Sec. &c,.. 427
VI.—Climate of Singapúr,.. 428
VII.—Culminating stars observed with the Moon at Násirabád. By Lieut.-Col. Thomas Oliver, &c., ... 432
VIII.—Chemical Analyses. By James Prinsep, Sec. &c., ... 434
IX.—Earthquake, ... 438
X.—Meteorological Register, for August, ... 440

No. 21.—SEPTEMBER.

I.—An Inquiry into the Laws governing the two great powers, Attraction and Repulsion, as operating on the Aggregation and Combination of Atoms. By Julius Jeffreys, Esq. Bengal Medical Service, ... 441
II.—On Progressive Development in the cold-blooded Vertebrata. By D. W. Nash, Asst. Surgeon, Beng. Est. A. L. S. Corresp. Member S. A... .. 465
III.—Some Geological remarks made in the country between Mirzapúr and Ságar, and from Ságar northwards to the Jamna. By the Rev. R. Everest, F. G. S. &c., ... 475
IV.—On the Notice of Alum or Salájit of Nipal. By A. Campbell, Assistant Surgeon, &c... 482
V.—Defence of Lt. Burt's Trisection Instrument, ... 485
VI.—Computation of the Area of the Kingdoms and Principalities of India, .. 488
VII.—Miscellaneous.
1.—Importation of Ice from Boston, ... 491
2.—On the Action of various Lights upon the Retina. By Sir D. Brewster,.. 494
3.—Substances contained in Opium, ... 495
3.—Death of Captain J. D. Herbert, ... *ib.*
VIII.—Meteorological Register for August, ... 496

No. 22.—OCTOBER.

I.—A visit to the Gold Mine at Batting Moring, and Summit of Mount Ophir, or "Gunong Ledang," in the Malay Peninsula. By Lieut. J. T. Newbold, 23rd Regt. Mad. L. Inf. 497
II.—On the Nest of the Tailor Bird. By Lieut. T. Hutton, 37th Regt. N. I. .. 502
III.—An Inquiry into the Laws governing the two great powers, Attraction and Repulsion, as operating in the Aggregation and Combination of Atoms. By Julius Jeffreys, Esq. Bengal Med. Est. 506

Page.

IV.—Iron Suspension Bridge over the Beosi River, near Ságar, Central India. Pl. XVI. 538

V.—Additional Note on the Climate of Nagpúr. By J. Prinsep, Sec. As. Soc. &c., ... 542

VI.—Proceedings of the Asiatic Society, ... 546

VII.—Analysis of Books, ... 551

VIII.—Miscellaneous.

1.—Circular Instructions from the Geological Society, for the Collection of Geological Specimens, ... 557

2.—Mirrors of Fusible Alloy, ... 559

3.—Liverpool and Manchester Railway, ... *ib.*

IX.—Meteorological Register for September, ... 560

No. 23.—NOVEMBER.

I.—On the Colossal Idols of Bamián. By Lieut. Alexander Burnes, Bombay Army, ... 561

II.—Account of the Earthquake at Kathmandú. By A Campbell, Esq. Assistant Surgeon, attached to the Residency, ... 564

III.—Census of the Population of the City and District of Murshedabad, taken in 1829, ... 567

IV.—List of Birds collected in the Jungles of Borabhúm and Dholbhúm. By Lieut. S. R. Tickell, 31st Regt. N. I., ... 569

V.—Note on the Fossil Bones discovered near Jabalpúr. By J. Prinsep, Sec. As. Soc. 583

VI.—Report on a Collection of Objects of Natural History. By the Curator of the Museum of the Asiatic Society, ... 588

VII.—Note on the Genus Spiraculum. By J. T. Pearson, Curator As. Soc. .. 590

VIII.—On the Kukumb ka Tel, or concrete Oil of the Wild Mangosteen, ... 592

IX.—Note on the Coal discovered at Khyúk Phyú, in the Arracan District, .. 595

X.—Analysis of Books.—Transactions of the Batavian Society, ... 597

XI.—Miscellaneous.

1.—Register of the Temperature of Ghazípúr. By the Rev. R. Everest, .. 604

2.—Note on the Salájit of Nipal, ... 605

3.—Summary Sketch of the Geology of India, ... 606

XII.—Meteorological Register for Nov. 1833, ... 608

No. 24.—DECEMBER.

I.—A short Account of the Charak Púja Ceremonies, and Description of the Implements used. By Ram Comul Sén, Native Secretary, Asiatic Society. .. 609

II.—Specimens of some Ornamental Forms of Persian Writing. By Mahá Rájá Káli Kishen Behadúr, of Calcutta, ... 613

III.—Description of an Indian Balance, called Tula. By the same, ... 615

IV.—Abstract of a Meteorological Journal, kept at Kotgarh, (Lat. 31° 11′ 45″ N. Long. 77° 27′ 49″ E.) Subathú, and the intermediate places in the Himálaya mountains for 1819-20. By Captain Patrick Gerard, 9th Regt. B. N. I. 615

V.—Notes on the Specimens of the Kankar Formation, and on Fossil Bones collected on the Jamna. By Captain E. Smith, Bengal Engineers, ... 622

VI.—Further particulars of the Earthquake in Nipal. By A. Campbell, Esq. Assistant Surgeon, attached to the Residency, ... 636

VII.—Note on the Fossil Palms and Shells lately discovered on the Table-land of Sagár in Central India. By H. H. Spry, Esq. Bengal Medical Service, .. 639

VIII.—Meteorological Register at Barelly in 1831. By H. S. Boulderson, Esq. 641

Page.

IX.—Proceedings of the Asiatic Society, ... 645

X.—Miscellaneous.

1.—Note on the Tailor Bird's Nest. By Lieut. Gifford. 648

2.—Note on the Inscription on the Hindu Coins. (Plate VIII. Fig. 15.) .. 649

3.—Radiation in Valleys. .. .. *ib.*

4.—Bones in the Delta Alluvium. .. .. *ib.*

5.—Fall of Fish from the Sky. 650

6.—Fossil Shells near Herat. 652

7.—Cochineal. .. .. *ib.*

8.—Reply to the Questions of the Burmese Philosopher Prince, ... 653

9.—Cave of Secanderiah, near Tabriz. 658

XI.—Meteorological Register for December, 1833. 660

JOURNAL

OF

THE ASIATIC SOCIETY.

No. 18.—*June*, 1833.

I.—*On the Marriage Rites and Usages of the Jâts of Bharatpur.* *By* J. S. Lushington, *Esq. C. S.*

[Read at the Meeting of the Asiatic Society, March 27, 1833.]

In the month of May, 1832, the present Raja of *Bharatpur**, Balwant Singh, was married to a daughter of the *Bechore* Raja, a Jât chief, of a very respectable family residing near *Gwalior*.

Though there is no mention of the *Bechore* Rajas in the "*Ayeen Akberi*," nor in any English work on India, that I am acquainted with, I am assured by the *Bharatpur* ministers and other respectable natives that the *Bechore* Princes once possessed territories in the neighbourhood of *Gwalior*, which yielded an annual revenue of from three to four lakhs of rupees. They add that the greater part of these territories are now in the hands of the Sindia family, and that the present *Bechore* Raja has only a small *Jagír* of about fifteen thousand rupees per annum.

The *Bharatpur* Raja was betrothed in 1824 *(Samvat* 1881*)*, to the *Bechore* Princess, by his father, the late Baldeo Singh, and under ordinary circumstances the marriage would have been solemnized many years ago. The Hindú law indeed censures the delay of marriage (for females) beyond 10 years, but the *Bharatpur* Jâts as "*Baran-Sankárs* or a mixed caste, deriving their origin† and military habits

* Then 14 years of age.

† Such is the tradition of the *Bharatpur* Jâts themselves. They assert their (spurious) descent from the famous or fabulous Bijei Pal of *Biána*, regarding whose power, riches, and extent of dominion, many *curious* tales are still current among them. In the "Bijei-Pal Rasa," a metrical romance or ballad (written in *Brij Bhakha*), the Hindú scholar will find a full and particular account of this

from the Lunar *(Chandravansí)* race of Rajpúts, and possessing at the same time the patient industry, agricultural skill, and religious laxity of the *Súdra* or servile classes, do not strictly adhere to the minutiæ of Hindú law. Whilst they retain many parts of the ancient ritual they omit others, and substitute in their place peculiar forms and usages (as will be noticed hereafter), which though evident innovations are held, by them, in the highest esteem.

But in this particular case the delay alluded to arose not from Jât laxity. It was owing in the first place to the untimely death of the late Raja BALDEO SINGH, and the troubles arising out of that event, which were terminated only by the capture of *Bharatpur*, in January 1826, and the restoration of his son BALWANT SINGH, a minor, to the *masnad;* and secondly, to the domestic intrigues and contentions which took place at the capital between the *Májí* or *Raní* mother and the Regent ministers, as to the selection of a *Gúrú* or spiritual adviser for the young Raja. The *Mají* is eldest wife of the late Raja, and step-mother of the present Raja; and as she once had the reputation of possessing some ability, the Supreme Government nominated her in the first instance to the office of Regent.

Her subsequent conduct however speedily did away with the favorable opinion entertained of her. It soon became evident that any portion of talent or acuteness which she might once have possessed, was neutralised by the lasting effects of a vicious education, and by a more than ordinary share of feminine caprice and weakness. Being naturally of a violent and imperious temper the possession of power appeared, day by day, to strengthen and augment the worst features of her character, until it at last led her to the commission of acts alike injurious to her own reputation and fatal to the interests confided to her.

Remonstrances and exhortations having been in vain addressed to her by the British Government, it became necessary to place the administration of *Bharatpur* affairs in other hands. The *Raní* was accordingly removed from the office of Regent, (a suitable establish-

great Hindú monarch, who is *fabled* to have conquered Raja JOMESWAR, the father of PIRTHU RAJ, the celebrated *Chouhan* king of *Delhi*, and to have ruled despotically over the *whole* of India. The KEROLI* Raja too, hoasts his descent from BIJEI PAL, and if any faith can he placed in a "*Bansaolí*" or genealogical "tree," he has a fair claim to the benefits, real or imaginary, resulting therefrom. ABULFAZL has a short and pithy sentence regarding the "*Bansaolís.*" "And all of these tribes now carry in their hands genealogical tables for ages back."—*Gladwin's Ayeen Akberí*, vol. ii. p. 399.

* He is a *Chandravansi Rajpút.*

ment being assigned her in the *Mehál* or inner apartments,) and the old ministers of the Raja appointed to succeed her. Of these, the *Dewán*, or principal minister, JEWAHIR LAL, was fortunately a person of considerable knowledge and experience in business, having held the *Dewáni* with distinguished honor to himself and advantage to the state during the reign of RANJIT, RAMDHAN, and BALDEO SINGH. By his prudent and equitable measures tranquillity was speedily restored and the old system of management re-established.

But though the *Raní*, as above stated, had been formally removed from the Regency, she never relinquished her hopes of a return to power. After repeatedly attempting to blacken the character of the Regent ministers, and as often failing in her attempts, as the charges advanced by her proved on investigation to be entirely groundless, she determined to change her plan of attack, and to apply all the means at her disposal to the establishing such an influence on the mind of the young Prince as would eventually throw him into her hands. With a view to this end she revived a story which she had herself invented and circulated when Regent, of the Raja's initiatory necklace* having been tied on by a favourite priest and emissary of her own, by name SRI' RAM; and on the strength of this story, she asserted the right of this person to be elected *Gúrú* or spiritual adviser to the Raja, well knowing that if she could effect this object, she would secure to herself the greatest spiritual and political influence, and become de facto mistress of the state.

The Regent ministers on the other hand had from the first attested that the pretensions of *Parohit* SRI' RAM to the Gúrúship were altogether false and ridiculous; that the father of the Raja had actually selected as *Gúrú* for his child the superior of the very temple of which this SRI' RAM was the mere *Púját'* or officiating priest; that, the circumstance of SRI' RAM's being a *Púját'* was a sufficient refutation of his claim; as the *Mehant* or superior of a temple, alone, was qualified for the office of *Gúrú*; and that in addition to these proofs, HARI DAS, the superior in question, was still living, and deposed that he had tied on the necklace with his own hands during the life time, and in the presence of BALDEO SINGH.

* The ceremony of tying on the necklace is performed when the *Gúrú* is selected; the *Chéla*, or disciple, being then an infant. This is preparatory, and intended to show that a selection has been made. When the disciple has arrived at the prescribed age, the ceremony of initiation is completed by the *Gúrú's* pronouncing the "*Gúr Mantra*," or mystical charm in the ears of the *Chéla*, who thereby becomes a twice-born, or regenerated man.

To this statement, a flat denial was given by the *Ranî* and her favourite priest, and amidst the bickerings and intrigues that ensued, the Raja's marriage was for some years considered inexpedient; it being contrary to usage that a person should be married prior to the ceremony of investiture being completed by his *Gúrú's* pronouncing the *Gúr Mantra*, or mystical words of initiation.

Such was the state of this question up to the beginning of 1832, when the advancing years of the young Prince convinced the regent ministers that a further delay would only tend to "defer* the remedy of the evil, not the evil itself," and that some decision must be forthwith resolved on;—after much doubt and hesitation they determined to solemnize the marriage, leaving the choice of a *Gúrú* to be decided on by the Prince himself on his attaining his majority. Before venturing on so unusual a proceeding, an opinion was obtained from the Brahmans, that though it would doubtless have been proper for the Prince to have become the disciple of some *Gúrú* previously to entering upon the holy state of matrimony, still it would be better for him to marry at once, and afterwards select a *Gúrú*, than continue in his unhallowed state of celibacy.

At the same time it was decided that the marriage ceremonies should be solemnized at the town of *Díg*† (24 miles to the north of *Bharatpur*), that the bridegroom should go out thus far to meet the bride, and after the performance of the ceremonies, conduct her to his palace at *Bharatpur*.

It has been stated above that the Raja was betrothed in the year 1824, and I now proceed to describe the manner in which the betrothal (*Sugaí*) takes place. I am well aware that in doing so I run the risk of wearying the patience of the reader. But it is necessary in this as in other things to begin with the beginning; neither am I ignorant that the ceremonies which form the subject of this paper have been pronounced by the historian of British India (see vol. 1. note c.), to be "trivial, multiplied, and tiresome." Such they would doubtless appear to be to the philosopher and historian of Europe, who, calmly seated in his study some thousands of miles from the country in which these customs obtain, looks with wonder or contempt at the

* Remedia potius malorum quam mala ipsa differentes.—*Tacitus.*

† The "*Bhowans*" or garden-palaces of *Díg*, built by the celebrated Jât, SU'RAJ MUL, may safely be compared with any of the buildings erected by the Muhammedans at Delhi or Agra. They were constructed of the stone found in the *Rúpbas* hills about 80 years ago. For a short account of the antiquities of *Díg*, see Appendix, A.

"trivial and multiplied" details, and in sorrow or anger records his opinion of their absurdity. But the Hindú, alas! looks upon these very *absurdities* in a totally different light—he considers them as part and parcel of his religion, as forms which were in the first instance inculcated by his deities, and which the practice and veneration of ages has hallowed. We may lament that he should do so, but we ought not surely to condemn him without inquiry. It appears to me that some of these very ceremonies, of which so sweeping a condemnation has been passed, are not only interesting and curious, but even valuable, inasmuch as they tend to throw light* upon the feelings and domestic genius of our subjects.

The betrothal takes place in the following manner—a message is first sent by the father of the girl to the bridegroom's father, intimating that as alliances have formerly taken place between their families, and as Providence has kindly blessed him with a daughter, &c. he is anxious to bind the knots of amity closer than ever. Should the father of the boy approve of the suggestion, he dispatches a *Parohit* or family priest to the lady's father, both to measure the height of the girl and ascertain her personal appearance, &c. On the return of the *Parohit* to his employer, the height of the young lady is compared with that of the boy. Should it appear to be of the orthodox proportion, and the report made by the *Parohit* of her beauty be favourable, the genealogies and affinity of the parties are then inquired into; and in the event of their not coming within the† prohibited degrees, the betrothal is agreed to, and considered binding upon both parties.

The betrothal having been adjusted, and the *Tika* or marriage present sent by the bride to the bridegroom, it remains for the Brahmans to select what they may be pleased to consider a "fortunate hour" for the marriage. Regarding this important point, long and tiresome disputes are sometimes carried on between the astrologers of the two

* "We cannot," says the talented and discriminating Sir H. STRACHEY, "study the genius of the people in its own sphere of action. We know little of their *domestic life*, their knowledge, conversation, amusements; their trades and castes, or any of those national and individual characteristics which are essential to a complete knowledge of them." Perhaps the acknowledged existence of this lamentable defect may excuse the attempt on my part to illustrate one of the most important events in the life of a Hindú.

† The prohibited degrees among the *Bharatpur* Jâts are the *Gots* or families of the boy's paternal and maternal grand-fathers and grand-mothers. In this, as in many other points, they depart widely from the strictness of the Hindú system as promulgated in the "Institutes of MENU'," where prohibitions of the most extraordinary nature are enumerated, and directions for choosing a wife minutely laid down.

durbars. These disputes would indeed be endless but for the interference of the superior party, who may always command or obtain the silence of the priests by a well-timed fee, or the promise of a grant of land. All opposition then ceases; difficulties and scruples founded upon texts from the sacred writings vanish, as soon as the land of promise appears in sight: a little ingenuity and a considerable portion of hardihood is all that is required; for with the aid of these two auxiliaries the very *Shastras* which at first appeared to condemn the arrangement may be clearly shown to favour it. There is an especial advantage in this sort of arrangement to the soothsaying Brahmans. Should the *Mohrat* prove a fortunate one, they take good care to attribute all the happy results following it to the skill with which it was arranged by them, but if on the other hand any untoward events should happen; if for instance the bride should prove barren or prolific only in female* children, they represent that they had from the first had a divine presentiment of the evil, but yielding to the opinion attempted by the anger of the Prince had consented to fix the *Mohrat* agreeably to his wishes.

As before stated, many years elapse between the act of betrothal and the celebration of the marriage rites. It is however expedient that the number of years thus intervening should constitute an uneven sum, as 3, 5, 7, not 2, 4, 6, which would be deemed unlucky. A similar belief in the virtue of uneven numbers has obtained amongst many nations from the earliest ages. It is especially laid down in the astrological books of the Hindús. Thus in the *Mohrat-Chintaman*, (a book abounding in the most extraordinary absurdities,) it is written that it is always fortunate to meet the black antelope on the right-hand side, and if the number of antelopes be *odd*, it is even fortunate to meet them on the left side. A bad omen occurring to a person starting on a journey is removed by eleven inspirations, and twenty-five steps with the right foot should then be taken. Perhaps this belief may have given rise to the Hindú Triad, and triliteral monosyllable for the three worlds—earth, sky, and heaven. The number three being

* There is a curious passage in the Koran, illustrative of the feeling which prevailed among the Pagan Arabs on the subject of female offspring: see SALE'S Koran, c. 16. "And when any of them is told the news of the birth of a female, his face becometh black, and he is deeply afflicted; he hideth himself from the people, because of the ill tidings which have been told him, considering with himself whether he *shall keep it with disgrace*, or *whether he shall bury it in the dust*." The feeling led, in Arabia as in India, to the crime of infanticide. It was formerly practised by many of the Rajpúts and by the Játs. I wish I could persuade myself that it has ceased.

uneven, and as such supposed to be of especial sanctity. At any rate, wherever or however the belief originated, it was at one time prevalent throughout the world. Even the Platonists appear to have inclined to it, and it was certainly esteemed by the other philosophical sects—nor is it perhaps much more absurd than the belief in alchemy, which formerly mastered the intellects of the sages and philosophers of Christendom, and for a time at least is supposed to have influenced the sublime genius of NEWTON*.

The time for the marriage having thus been fixed, the day on which the *lagan-patri* (or letter containing the marriage horoscope) shall be sent by the bride to the bridegroom, is then adjusted. This is brought by the *Parohit* or family priest of the bride's father, and is simply a large scroll of paper, on which the day fixed on for the wedding, the aspect of the planets, the number of days during which the bridegroom's body is to be anointed with jasmine oil *(Chambéli-ka-tél)*, and the number of rejoicings (*mangal*) or days during which the ceremony is to last, are specified.

The *lagan* is written in Sanscrit, and together with the *khilat* which accompanies it, is received by the Raja in the inner apartments, on which occasion none but the females of the family, the Brahmans and *Parohits* (who have always access to the *mehal*), and Raja himself are present.

The *lagan-patri* having been brought by the *Parohit* to the Raja, the latter places it on his head, in token of respect, and delivers it to the Brahmans in attendance, who read and explain its contents. The Raja is then lifted† up by the *naí* ‡ in waiting, and carried into the inner apartments, where the *Maji* or *Raní* mother resides, and to her he gives the *lagan-patri* and *khilat* which accompanied it. I should have stated above, that the *lagan* is tied up with *yellow*§

* Not less extraordinary was the *enthusiastic* belief of the Emperor JULIAN, the hero, legislator, and *philosopher*, in the virtue of the Eleusynian Mysteries and Grecian arts of divination. GIBBON observes, with his usual felicity of expression, "By a strange contradiction, he disdained the salutary yoke of the Gospel, whilst he made a voluntary offering of his reason on the altars of Jupiter and Apollo." *Decline and Fall*, chapter xxiii.

With regard to Sir J. NEWTON's belief in the doctrines of alchemy, I observe that Sir D. BREWSTER, in his lately published Life, (page 302,) states, that there is no reason to suppose that Sir I. N. did *believe* in them

† He is *lifted* up, because it is considered improper that he should come in contact with the *vile earth* during the performance of the ceremonies.

‡ *Nai* or barber; the attendants on Rajas and Sirdars at *Bharatpur* are all of this caste. *Naíns*, females of the same caste, wait upon the *Raní*.

§ It is the favorite colour of KRISHNA; hence his synonime PITAMBER, the "yellow-clothed" deity.

threads (this colour being esteemed fortunate); that *dúb** grass, an emblem of increase, is put on it; and that gold coins, betelnut, rupees, *haldi* or yellow curry-powder, and yellow rice are placed within the folds of the paper.

The *lagan-patri* is intrusted to the keeping of the *Raní* mother until the day of her death, whilst the *khilat* is sent out by her for the inspection of the Sirdars assembled. When the *Parohit* or his followers, who escorted the *lagan*, have returned to their tents, which are pitched outside the city, it being contrary to etiquette that the bride's party should partake in any way of the bridegroom's hospitality, *Gur* (unrefined sugar) is distributed to the populace. On the third day after this, the *Parohit* returns with presents to the bride.

From the receipt of the *lagan*, the marriage is considered to begin. Marriage songs *(Barna and Barní)* are sung in the houses of the bride and bridegroom, and presents are distributed to the women who sing; these are for the most part females of the same stock *(Got)* as the bridegroom. The subjects selected by them, and the language in which they are illustrated, are alike coarse and ludicrous, resembling perhaps the "sales et convicia" sung by the Roman boys at marriages, or the rude jokes and indecencies which pervade the songs of our older poets.

The Raja's mother sits in the midst of the singers, listening to the songs, and frequently joins in the chorus herself. The singers are rewarded for their labours, and their songs are always in proportion to the reward. There is a common saying, taken from this circumstance, which has passed into a proverb, "*Jysa tera kourí wysa meri gít*," or the goodness of our song will depend upon the number of rupees bestowed on us.

The marriage songs having been instituted, and the body of the bridegroom anointed with jasmine oil, which is applied with *dúb**

* For an account of the sacred *durva* or *dúb* grass, see Asiatic Researches, vol. iv. Observations on select Indian Plants, by Sir W. JONES. The following text is there quoted: "May *Durva*, which rose from the waters of life, which has a hundred roots and a hundred stems, efface a hundred of my sins *and prolong my existence* on earth for a hundred years." Mr. HENRY COLEBROOKE quotes another text in praise of *Durva*, in his learned Essays, and Colonel TODD† mentions that the *Rajpúts* are fond of comparing themselves to this valuable grass, which thrives in almost every soil, and propagates itself for ages and ages. The comparison is not confined to *Rajpúts* alone, it is current throughout upper India.

† I quote from memory, not having Colonel TODD's valuable work by me, the 1*st volume* of which I perused (with less attention than it deserved), two years ago, in Calcutta, the 2*nd volume* I have not yet seen.

grass to his feet, arms, and shoulders, the worship of the potter's wheel (*Chakr-puja*) is then performed by the *Mají* and female relatives of the Raja. This consists in visiting the shop of the family potter, and in offering up sweetmeats, betelnuts, and rupees on his wheel. The praises of this instrument and the article produced by it are chaunted by the women, and the ceremony concludes by a demand on the part of the potter* for a present; upon which there ensues a mock dispute between him, the *Ránés*, and the women, the potter demanding exactly twice the sum to which he is entitled, and the females as stoutly refusing to comply with his demand. The dispute is generally ended by a compromise between the belligerent parties, and the female disputants return to the *mehal*.

Two days prior to the marriage, the women of the *mehal* repair to a tank within the interior of the palace, and having with their hands dug up the wet mud on its banks, bring it on their heads into the inner apartments, where they proceed to construct a miniature store-house or granary for the bridegroom. The meaning of which is obviously this, that it becomes the bridegroom to lay up ample store of provisions for his future wife and family, whilst it is no less incumbent on them (his relatives) to assist him in so doing.

After the worship of the potter's wheel the Raja and the whole of his Sirdars repair in state to the shrine of *Sítlá*, the goddess of the small-pox. Propitiatory prayers and gifts are offered up to this dreaded personage, and various articles of food and incense placed before her. So general, I may add, is the worship of this goddess† throughout these parts, that every village has an altar consecrated to her, which consists generally of a mere heap of stones loosely piled up, with one slab placed perpendicularly, on which a rude image of the goddess is engraved.

The appearance of this goddess is said to be similar to that of an old and wrinkled woman, and, for this reason, the Hindús consider it

* Two reasons are assigned for the worship of the wheel; 1st, that it is the weapon of VISHNU. 2ndly, Its great utility to the married couple, as furnishing them with utensils of every description.

† She is said to ride on a donkey and to have a potter as a groom, and for this reason potters are entitled to the food offered up at her shrine, should it be *Sukri*, or food cooked in a *chulha*, but if *Nikri* or sweetmeats (which hy some convenient text‡ are held to be lawful to all Hindús, though cooked hy strangers), the Brahmans take good care to secure them.

‡ Provided they are inhabitants of the *Mudh Des*, or country hetween the *Himálaya* and *Vindhya* ranges.

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proper that persons seized with small-pox should be attended by old women alone.

Another still more extraordinary act of devotion is then performed, the worship of the *Gohra* or place in which the filth of the palace is deposited. The worship consists in sprinkling water, perfumes, and sweetmeats on the mass; and it is said to be indicative of the wish on the part of the worshipper, that his progeny may increase and multiply even as the heap of rubbish before him. In like manner, the Hindús are accustomed to throw their sucking teeth on a dunghill, uttering at the time a prayer that their new teeth may quickly appear, and increase even as the dunghill has increased. Strange as this worship may appear to us, we should not forget that it may be defended by classical precedents. If the Romans adored their "Cloacina," surely a less civilized people may be excused for worshipping the *Gohra*.

Upon the termination of these several acts of devotion (ritè peremptis), there remains the ceremony of the *Bhát* to be performed, which is the presentation by the brothers and other male relatives (of the Ranís), of marriage clothes, and presents to the Raja. The presents consist of elephants, horses, camels, clothes for the Raja and Ranís* and *ashrafees*; and are given first to the *Parohits*, then to the Ranís and female attendants, and lastly to the Raja. In return for these presents the donors receive *rice* from the Raja. Hence the name of the ceremony.

When the Raja's mother has put on the marriage† dress thus presented to her, and the circumstance has been communicated to friends and people assembled, the marriage is considered to have commenced, and the liveliest marks of rejoicing are exhibited.

The day before that on which the "*barát*" or marriage cavalcade starts for the place at which the wedding is to be solemnized, the deputations sent by foreign states in honour of the marriage are feasted by the Raja; after the entertainment is over the whole of the Raja's relatives stand up, and whilst the Prince himself remains seated on the *guddee* throw rupees, &c. into a flat iron dish. The women singing the following words:

"*Túní khayo pet‡ pusár yún to lejaega múnh már,*" or you have

* His mother, grand-mother, &c. not his future wife.

† The act of putting on the dress thus presented is called "*bhát paharana,*" a curious idiom enough.

‡ This is an allusion to the *Péthya*, or allowance of food given by the state to the relatives of the Raja. A *Péthya* is literally a bellyful, but varies in quantity and quality according to the pleasure of the granter and rank of the grantee. The

filled your bellies famously. In the same way shall it be taken from you (even) by blows (i. e. should you refuse).

The time having at length arrived at which the marriage procession is to set out, the attendants proceed to array the bridegroom in his marriage garments, which, as will be seen from the following list, are sufficiently numerous.

On his feet he has shoes of embroidered velvet. His *paíjamas* or loose trowsers are composed of *kímkhab*, and under these he has a *dhotí* of yellow silk.

As an under vest or garment he has a *jámá* of cotton cloth, trimmed with silver lace, and dyed of a yellowish red colour *(kesária)*. Over this *jámá* he has an embroidered vest, studded with pearls, (*jerríka jámá*,) and over this again a girdle ornamented in the same way. The *panarth*, a sort of long handkerchief, is tied to his girdle, and thrown over his shoulder, to enable him to keep the dust from his eyes, or wipe it off should any find access thereto. On his head he has the *mor**, or marriage chaplet, which is richly ornamented with pearls and gold embroidery, and is supposed to resemble the helmet of KANHYA, with its plume of peacock's feathers.

His eyelids are stained with *kajul* or lamp-black, his feet and hands with *mehndí*†, and on his feet, hands, arms, and neck, he wears a

Pethya of a *Raní*, for instance (see Appendix, B.) comprises all sorts of grain, spices, sauces, &c. and that *sine qua non* of Indian life, *shirní* or sweetmeats. The fondness of all classes, high and low, men, women, and children, for these said sweetmeats is to *us* quite marvellous. I have been assured, that some Brahmans will eat a 100 balls of *laddu* (sugar, ghee, and pounded gram) at a sitting!! There is a curious character of an "eating Brahman," a "grand gourmand," in the Hindú Theatre."

* It has a curious sort of veil in front, formed of gold threads, hanging loosely from the head to the breast, which is intended to protect the wearer from the "*evil eye*." A belief in demonology and witchcraft prevails throughout Hindústan. As a curious instance of "public opinion" among the Jâts on this subject, I may relate the following anecdote, told me by a very respectable native of *Bharatpur*. In 1815-16, the *Bharatpur* Raja, RANDHIR SINGH, had an interview with Lord Hastings at *Futtehpur Sikrí*, and was received by that distinguished nobleman with his usual kindness and affability. The Raja was highly pleased with the interview, but happening in the course of the next year to lose his eyesight, by an attack of *ophthalmia*, some of the people about him, who from the first had endeavoured to dissuade him from meeting the Governor General, gave out that his blindness was the effect of "witchcraft" practised on him by Lord H. during the interview, and this tale was generally believed throughout the *Bharatpur* Raj!!

† Every one has witnessed the beautiful vermilion dye which the natives extract from this plant. It is considered as essential an ornament by Hindú and

variety of jewels, both such as are peculiar to men, as also some which are ordinarily worn only by women. Thus, besides bracelets on his wrists, he wears the *ponchí*, a sort of bangle usually worn only by females. On his neck too, in addition to the common necklace which all Hindús wear (*kanthí*), he has the *hansli*, a kind of collar made of gold or silver, and the shape of which is that of a horse shoe, thus ☋. He has also rings on his little and fore fingers.

Thus attired, the bridegroom proceeds to his mother's apartment, where he has one more ceremony to go through prior to starting: after the usual obeisances, the Raja applies his mouth to his mother's breast, and affects to imbibe some of the milk contained (or supposed to be contained) therein. This is of course a mere form, but it is never omitted by any caste of Hindús, and is obviously meant to remind them of the period when they derived strength and nourishment from their mother's breast alone, and of the duty imposed on them of protecting the parent who cherished them in the days of helplessness.

This sentiment is simply and beautifully expressed in one of SÁDI's odes, of which I presume to offer the following version. (See Appendix, C.)

Having received his mother's benediction, the bridegroom leaves the inner apartments, and joins the marriage procession, which is marshalled outside the *mehal*. He is then lifted into a palankeen or *howdah*, as the case may be, or rather as the Brahmans may have directed. The chief thing at issue is the *direction* in which he is to proceed, particular kinds of conveyances being considered fortunate to persons travelling in particular directions: thus, should a person be journeying towards the east, he should proceed on an elephant; if to the south, in a *rath*; to the west, on a horse; to the north, in a *pálkí*. These directions are of course seldom observed by persons of inferior condition; indeed, they are manifestly intended only for

indeed by all Asiatic women as rouge was (I will not venture to say *is*) by our own fair country women. There is this distinction however to be observed in the two otherwise similar cases, no Hindú would think it ungallant to inform his mistress that she was in the habit of "rouging." The custom is prettily alluded to in the "Hindú Theatre," *Vikrama* and *Urvasi*, Act 4, Parura Vas thus speaks: "How shall I learn, if she hath passed this way: the pleasing soil, softened by showers, perchance may have retained the delicate impression of her feet, and show some vestige of *their ruby tincture*." The subject has been somewhat differently handled by the wits and poets of Europe from the days of MARTIAL down to those of BREBEUF, who is said to have produced no less than 150 conceits on this topic. Some specimens are given by BLAND in his "Illustrations to the Greek Anthology."

people of rank and wealth. The *mohrarat*, however, is never violated even by the poorest Hindú, and judging from my experience at *Bharatpur*, I would say their faith in its efficacy is as firm as ever.

On passing through the city, the Raja stops at the "*Behari ji mandir*," the temple of the *playful* god KRISHNA, and makes his obeisances to the *Mehant* or high-priest of the establishment.

There is a tradition still current at *Bharatpur* of the "sable god*" being the *killedar*† of the fort (though not properly within the land of *Bruj*), and for this reason, both he and his ministering priests are entitled to greater honors than are rendered to the other forms of the deity. On entering the *mandir* the Raja seats himself on the ground near the *Mehant*, who does not rise from his *gaddi* or cushion. The Raja humbly‡ invokes the blessing of the holy man, which is accordingly given, the *Mehant* throughout the interview maintaining the tone and manner of a superior, whilst the Raja acts the part of the suppliant. The same forms are observed when the priest visits the Prince in full *darbár*. The Raja rises to meet the saint as he enters the hall of audience, and taking him by the hand, seats him on the *masnad*, himself sitting on the ground beside him. Some idea may be formed from this circumstance of the important part which these *Mehants* play in Hindú states. The high esteem in which they are held by all classes of Hindús, from the Raja down to the "unwashed artizan," necessarily gives them the greatest influence in state affairs, should they be of an intriguing turn of mind, and especially when they contrive to become the *Guru* or spiritual adviser of the Raja. The notorious SRI' JI of *Jeypur*, the *Guru*, and as the Jâts affirm evil adviser of DURJAN SAUL, whom he instigated to his hopeless resistance to our arms, may be taken as a good specimen of an unprincipled intriguing *Mehant*; nor is *Bharatpur* without a similar character, as is well known to the supreme authorities. In general, however, the *Mehants* are said to be quiet, well disposed personages, and I believe that a political *Mehant* subjects himself to as much odium among the Hindús as a political priest does with us. As all the *mandirs*§ have

* The favorite epithet applied to KRISHNA SYAMARE.

† During the assault in 1804-5, our Sipahís protested that they saw the god distinctly! "dressed in yellow garments, and armed with his peculiar weapons the bow, mace, conch, and pipe!"

‡ Previously to sitting, he performs the *dandavat*, a salutation which consists in raising *both hands joined* to the head, which is, at the same time, slightly bowed.

§ The two principal temples at *Bharatpur* are those of BEHARI JI and LACHMAN JI, the former belonging to the *Nemáwat*, the latter to the *Rámáwat* sect of *Byragis*. The *Mehants* of these temples have each a *Chanda* or cess allowed

grants of land from the state or a share in the assessments levied upon villages, they are of course more or less dependent on the will of the reigning Prince.

I may mention here, in order to preserve myself from the imputation of having mistaken the ground on which the extraordinary marks of respect above detailed are paid by the *Bharatpur* Rajas, to the *Mehant* of the *Behari Ji Mandir*, that the present Raja, for reasons which have been already mentioned, had not become the *Chela* of any *Gúrú* at the time of his marriage, and that consequently it was not as his *Guru* or spiritual adviser that he reverenced the *Mehant*, but as being the superior of a temple especially dedicated to KRISHNA.

Quitting the temple, the cavalcade proceeds on its way. As it passes through the city, the inhabitants crowd the tops of the houses, anxious to obtain a sight of the precession, and compare it with those of former princes. The streets are illuminated, with *chirághs* fixed upon bambu trelles work; and as the Prince himself advances, the loud cries of "RAM! RAM!" become more and more frequent; uttered as they are by all ranks and ages, from the grey-headed men of sixty down to the child of three or four years old; add to these sounds, the "concordia discors" of the large *shankh* or shell; the blowing of fifes and trumpets, and beating of drums on the part of the *Paltans*, which precede the Raja; the deep bass sounds of the *Nakáras* or kettle-drums borne by the camel *Sowars;* the shrill piercing tones of the bambú pipe; the tinkling of the elephants' and camels' bells; the waving of chouries; "the dancing of the tall spears" on which the national standards* are fixed; the discharge of fire-works and jingalls, and we have a pretty correct enumeration of the attributes of pomp (and melody!) with which a Hindú Prince goes forth to his wedding.

The women of the different villages through which the *Barát* passes advance to meet it, singing the songs of rejoicing usually sung at the *Húli*†. In return for this mark of respect presents are given them, generally about five rupees per each village.

them by the state upon all villages. The number of villages is about 1,200, and the *Chanda* varies according to the *Rakba*, being seldom if ever above two rupees, nor less than four annas. Besides the *Chanda*, they have the "*Changí*" or *tithe in kind*, levied upon all sorts of grain when exported for sale in the *bazars*, and a pious or superstitious Prince occasionally makes them a grant of a village, i. e. of the government share of the produce, which is collected by the *Mehant* instead of by the *Sirkar*.

* A yellow flag, with the figure of the monkey-general HANUMAN rampant in the centre.

† *Phagua*, so called from the month *Phagun*.

The procession moves at a slow and measured pace : immediately in front of the bridegroom's elephant are stationed a number of water-carriers, bearing skins of water, which they occasionally pour on the ground before him ; not with the intention of laying the dust, for that would be considered absurd, but to convey to all beholders the notion that the presence of the bridegroom is as grateful to his mistress and all created things as water is to the parched-up earth.

When the *barát* has arrived to within a mile or two of the town at which the wedding is to take place, it is met by the nearest male relative of the young lady, who comes out thus far to honour the bridegroom, and to conduct him to his tents. This is called the *Peshwaí* or *Istakbal,* and is considered an important part of native etiquette. It obtains I believe throughout Asia, certainly in all Muhammedan countries.

The whole of the bridegroom's Sipahís, attendants, and sirdars, constituting a body of about 8000 men, are dressed in marriage garments, as also those of the bride. In fact, no one would be allowed to form part of the procession, or to be present at the marriage feast who was not so attired. This piece of etiquette throws light on a passage in Scripture, Matthew xxii. " And when the king came in to see the guests, he saw there a man which had not on a wedding-garment, and he said unto him, Friend, how comest thou hither, not having a wedding-garment? and he was speechless. Then said the king to the servants, Bind him hand and foot, and take him away and cast him into outer darkness." A similar violation of established rule and etiquette would meet with a similar punishment, I believe, in any native state.

I shall now describe as shortly as possible the ceremonies which are performed after the arrival of the bridegroom. In the first place, a hookah, bhang, tobacco, cardamums, and *sherbet* are sent to him by the " *Samdhí*" or father of the girl, and the " *Samdhí*" himself waits on him. He is received with much respect by the Sirdars of the court, but the bridegroom neither rises from his seat nor returns his salutation. The natives consider the bridegroom to be a sort of Divinity* for the two or three days during which the ceremonies last, and for this reason he neither returns his father-in-law's greeting nor that of any one else. When the two or three days are over, he relapses to his former " earthly" state.

* However low the caste and station of the bridegroom, he is called a " *arhai roz ka Badshah,*" or a " King for two and half days," i. e. during the performance of the ceremonies, which last two or three days, according to the resources of the bride's father, who is expected to feast the cavalcade for at least two and generally three days.

In the evening of the first day, the ceremony of the *Toran* takes place, and at midnight that of the *Hom*. Though there is no mention of the *Toran* in Mr. COLEBROOKE's Essays, nor any allusion to it in the "Hindú Theatre," or law, it is considered by the Jâts, and I am assured, by all Hindús in Upper India, as a very important ceremony, and as such, is never omitted. The *Toran* is a wooden ornament, or rather the figures of certain little birds, carved in wood, and gilded over with gold leaf. These are fixed above the doorway leading into the *Mandap* or marriage pavilion, and the ceremony consists in the bridegroom's striking or touching them with a sheathed sword.

As soon as this feat has been accomplished, a general sprinkling of *Húli* powder and explosion of fire-works takes place. The Sirdars partake of a *zyafat* at the *Samdhí's* house, whilst the bridegroom returns to his tents, it being considered improper that he should be feasted by his father-in-law prior to the performance of the *Hom*.

Though I have made repeated inquiries as to the origin and meaning of the *Toran*, I have not hitherto received any satisfactory explanation of it:—one reason assigned, and it is certainly a plausible one, is that the touching it with the sword is intended to represent the bridegroom's superiority over the bride, and to convey a hint to her and all present, of the treatment she will receive, if refractory. The New Zealanders, if I recollect aright, convey a similar hint to their intended wives, though in a somewhat coarser fashion, by knocking them down with large clubs previously to the marriage; or perhaps, the *Toran* is some allusion to the kind of wedding or rape entitled *Rakhasa*, which took place between KRISHNA and RU'KHMANI', and is one of the forms enumerated by MENU.

The sacred ceremony of the *Hom* or burnt-offering takes place at midnight, and as it is decidedly the most classical and interesting of all the Hindú sacrifices, I shall endeavour to describe it minutely. I shall not attempt to give the *Mantras*, or incantations used on the occasion: first, because on account of my very slight knowledge of Sanscrit I was unable to determine the particular *Mantra* chaunted by the priests; and secondly because the *Mantras* generally used on such occasions have already been given by Mr. COLEBROOKE in his admirable papers on the religious ceremonies of the Hindús.

The *Hom* was performed under the *Mandap* or marriage pavilion, at the gateway of which the ceremony of the *Toran* had taken place. The pavilion is erected by the bride's father, and is constructed of wooden posts, gaily ornamented and gilded with gold leaf, having niches for the reception of the small earthen lamps which serve to illuminate the

compartments into which it is divided. The whole of the pavilion is carefully covered over with long cloth; and from the roof of it numerous lamps of coloured glass or paper (in which the purest *ghee* is burnt) are suspended by long strings; gilded cocoanuts are also to be seen dangling after the same fashion, and the appearance of these and of the many-coloured lamps is at once fantastic and pleasing.

The spot of ground on which the sacrifice is to be performed having been selected by the Brahmans, the *Nains* or female attendants of the bride proceed to decorate it in the prescribed manner: "The figure of the sacred lotus *(nymphæa nelumbo)*, on which, according to Hindú belief, the deity floated amidst the waters of chaos, is drawn upon the ground in the centre of the *chouk* or square. On the figure of the lotus small wooden stools are placed for the bride and bridegroom, their faces being turned to the east.

Immediately opposite to the *chouk* is the *bedí*, or altar on which the *Aghana* or sacrificial fire is lighted. The altar is square, formed of earth, and ought to be one *hat'h* (cubit) in height, but the dimensions vary. In the centre of it is placed the holy fire, which may be formed of the six following woods; viz. the *Pulas (Butea frondosa)*, *Pepul (Ficus religiosa)*, *Chonkra (Prosopis spicigera—Shumaí* in Sanscrit), *Akh (Asclepias gigantea)*, *Kher (Acacia Catechu)*, and *Onga (Achryanthes aspera*.)*

The father of the girl (*samdhí* as he is called), the bridegroom's nearest male relatives, and the Brahmans who are to perform the ceremonies, having seated themselves round the sacrificial fire, the bridegroom enters the pavilion, carried or supported in the arms of a *nai*. The *samdhí* honours him with a respectful salutation *(dandavat)*, and pronounces a short benedictory prayer, expressive of gratitude for the high honour conferred on his daughter. To this prayer no answer is given, nor is any return made to the salutation.

The *samdhí* then brings a carpet for the bridegroom to sit on. This is placed on the right-hand stool, that on the left-hand being reserved for the bride. He also brings water for the bridegroom's feet, and the Brahmans chaunt a *mantra* in praise of water; but as the *mantra* and this particular ceremony are both described in Mr. Colebrooke's third Essay, any further notice of them would be presumption on my part. The holy element, water, which Pindar declares to be the best of things, is honoured with three adorations. The first, or the ablution, is called *snan*; the second, or the pouring the water on the

* See Piddington's Indian Plants. The *Onga* is the *Upa Maya* of Sanscrit.

ground from a vessel in the shape of a boat, *arghá*; and the third is the sipping, or *achimán*. Surely, there is nothing very "absurd or trivial" in these allusions to the three great purposes to which water is applied in India, and throughout the world, viz. ablution, irrigation, and nourishment.

After the adorations of water, the bride enters the pavilion, and being carried to her father, is by him received with extended arms. He then presents her to the bridegroom, places her hand in his: the latter joining his two palms together to receive hers; as is customary throughout Hindústan with persons when a gift is conferred on them. The Brahmans now proceed to chaunt the *sankalp*, or votive prayer, expressive of the solemn vow by which the bride has been dedicated and given away by her father, and thus after one or two other *mantras*, the *kanya-dán*, which precisely answers to our giving away of the bride, is accomplished.

The *Bharatpur* Pandits assert, that the *kanya-dán* irrevocably fixes the marriage, even though the *Hom* or burnt-offering should not take place. This appears to be contrary to the text in MENU, which declares that a marriage is irrevocable after the seven steps have been taken at the *Hom*. Mr. COLEBROOKE also states that the seventh step renders it irrevocable.

The *kanya-dan* is succeeded by the *parkrama* or *pridakshana*, in other words, the circuits round the altar. The clothes of the bridegroom are tied to those of the bride; their hands bound together with *kusa* grass, or a yellow thread: and in this state they have to perform seven circuits round the altar. The *Shastras* indeed prescribe four circuits as the proper number, but the Jâts always make seven.

The number of circuits having been finished, *mantras* are recited and ablutions offered in honour of *Aghana*, (the god of fire,) the purest symbol of the all-pervading principle of life and power, which, as in the Platonic scheme, is supposed to diffuse itself throughout the mass of created things, and to vivify and animate the countless particles of matter.

> "Cœlum et terras camposque liquentes
> "Spiritus intus alit, totamque infusa per artus
> "Mens agitat molem, et magno se corpore miscet."

Well would it have been for Hindúism, and the myriads who profess and have professed it, had all its symbols and objects of adoration been equally pure and innoxious as *Aghana*.

The worship of *Aghana* being completed, and the marriage rendered indissoluble and irrevocable by the seven steps, the attendant priests

chaunt the *Sakhochar* or marriage hymn in honour of the affianced parties' ancestors. The priests present on the part of the Raja contented themselves with enumerating the praises and virtues of three of his forefathers. Of these Suraj Mal, the founder or consolidator of the Jât power, and Ranjit Singh, the fortunate opponent of Lord Lake, naturally obtained the largest portion of the eulogium. There is a very spirited ode in *Brij Bhákha* in praise of Suraj Mal, nor has the martial prowess of Ranjit Singh been less honoured, but alas! for the credit of poetical prophecy. The Jât bard who celebrates the fame of Ranjit Singh, after describing with some minuteness and most woful anachronisms the progress of the British power, which he depicts as a raging flame, kindled in the south, and acquiring heat and consistency as it spread through the country of Tippu and *Mahárásh-tra*, to the imperial city of *Delhi*, proceeds to immortalize the valour of Ranjit Singh, by whom this raging element of destruction was checked and *extinguished*.

But though the lapse of a few years has proved the vision of the Jât bard (like most other poetic visions), to be vain and empty, it would be ungenerous to deride the feeling which prompted it. The Jâts are and ever have been deeply national; even in these (their) days of weakness and prostration they cling to the memory of former triumphs, nor are the feelings of the man to be envied who would sneer at them for so doing. The sentiment which inspired the glowing numbers of Tyrtæus, which animated and immortalized the "fatal eloquence*" of Demosthenes and Cicero, and which in modern times has called forth the powers of the bards and orators of Europe, cannot and should not be deemed unworthy of sympathy, though expressed by a Jât poet in his own peculiar language.

After the praise of ancestors, the Pandits read a lecture on the marriage duties to the bride and bridegroom, to which they are both expected to testify their assent. Presents are then distributed to the attendant priests, and the bride and bridegroom proceed in one palankeen to the tents of the latter, where the knot which had been tied in their garments is unloosed, and the damsel dismissed with a present of fruits and flowers to her own house.

The next day, and sometimes the day after also, is spent in festivity and rejoicing. The bridegroom, attended by his principal friends and Sirdars, dines with the bride's father. On this occasion also the etiquette observed will remind the reader of a passage in Scripture. The bride-

* "Mortifera facundia." *Juvenal. Sat.* x.

groom is met at the door of the house by his father-in-law, who receives him with every mark of honour, and with his own hands washes his feet. The feet of the other guests are also washed by the bride's relatives. The whole party then proceed into the interior of the pavilion, beneath which they seat themselves in their prescribed order, and the repast, consisting of various kinds of sweetmeats, is served up on platters of the leaves of the mango-tree. These with pure water and clarified butter constitute the whole of the feast.

As I particularly wished to be present at a Hindú feast, I made a point of attending on this occasion, having first of all ascertained that by so doing I should not in any way hurt the feelings or prejudices of the parties. The *ziáfat* in fact consisted merely of sweetmeats, and these as before stated are eaten by all classes without prejudice or observance of the forms which attend a regular meat, such as purifying the ground with cow-dung, constructing a *chulha*, drawing the lines around it, and eating food cooked by your own hands, or by a Brahman. We were seated near the Raja, and had our platters of mango-leaves filled with sweetmeats, as had the other guests. The persons in our immediate vicinity, whether restrained by our presence, or from etiquette, did not appear to do much honour to the viands. I observed however that those seated further off were either more hungry or less ceremonious, and I was much amused by the prowess of one of the guests, "a good portly man i'faith and a corpulent one of a cheerful look, a pleasing eye, and a noble carriage," whose platter appeared, like the cask of the Danaidæ, to empty as fast as it was filled. On the third day largesse is distributed by the bridegroom's father to the *Bháts* or bards who assemble in large numbers on such occasions. The mode of distribution is as follows :—For some days previous to the celebration of the marriage, these votaries of the "Gentile art" flock from all quarters to the place at which the wedding is to be solemnized. To every man, woman, and child, so assembling, a donation is made, generally to the amount of one rupee per head, whilst smaller sums of from eight to four annas are also given for the wretched *tattús* or bullocks on which the owners may have come, and frequently to any animals, such as monkeys, parrots, or dogs which they may bring with them :—for it would be considered a stigma on the bridegroom's hospitality, should any creature attend his marriage with the hope of largesse, and be sent away empty-handed. This custom of promiscuous and ill-judging expenditure on the occasion of marriage obtains amongst all classes of Hindús, from the Raja, to the *chumar* or outcast. It even masters the well known avarice of the *Banya* or merchant, who will squander in marriage re-

joicings, sums which it has cost him many a year of griping and patient avarice to accumulate, and which perhaps could not be extracted from him by the severest tortures.

The multitude of *Bhâts*, and their attendant bipeds and quadrupeds, is collected together in some secure and commodious place, where there is but one egress. The distribution of money then commences, and as each individual receives his allotted gift, he is directed to depart by the single entry, which is guarded by sipahís, and closed as each *Bhât* departs with his reward. By this system, confusion is prevented, nor is it possible for individuals to claim and receive their quota more than once, as they would otherwise undoubtedly do.

Liberal presents are also made to the "*Negí-Jogí*," or persons who have contributed by their handicraft towards the preparation of the marriage, such as potters, sweetmeat-makers, and other professors of the useful arts. Little distinction is made on such occasions between the *Bhât*, whose vocation is (or ought to be) of an intellectual nature, and the artizan whose labours are purely manual. If any distinction is drawn, it is to the prejudice of the poet, and he obtains a less reward than the maker of comfits. The reader may perhaps consider this an unfair valuation of the merits of these two classes, or it may remind him of the ingenious "Maitre de danse" in Gil Blas, who indignantly asks how four double pistoles per month can be considered an extravagant remuneration for *his* labours, when a fourth at least of that sum would be paid for a mere "*Maitre de philosophie**."

The religious and family ceremonies of the marriage having been concluded, the bride was escorted with much pomp to the house of the bridegroom, at *Bharatpur*. On arriving at the fort, she proceeds to the *deohrí* or palace appointed for her reception; at the threshold of this building she waits for the arrival of the bridegroom, who follows her at a short distance, and as soon as he has joined her, a knot is again tied in their garments, and they proceed together into the interior of the *deohrí*.

At the entrance into the first court, the couple is met by the daughter of the bridegroom's *parohit*, who stands as centinel of the sanctorium, and refuses to admit them until her usual free has been granted: on obtaining this she allows them to proceed.

* "Combien prenez-vous par mois? quatre double-pistoles, reprit-il; c'est le prix courant, et je ne donne que deux leçons par semaine. Quatre doublons par mois! m'ecriai-je, c'est beaucoup. Comment beaucoup? repliqua-t-il d'un air etonné; vous donneriez bien *une pistole par mois à un maitre de philosophie!*"

The household gods, images of whom are placed within the *deohrí*, having been duly reverenced by the bride, she is ushered into the apartments allotted to her, and is shortly after visited by the female relatives of the bridegroom, who claim the privilege of removing her veil and of gazing at her hitherto secluded charms. This practice is known by the name of *múnh-dikhaí*, or the face-shewing, and the females thus honoured by a gaze are expected to make a handsome offering to the bride for the favour conferred on them.

The bride remains for three days and nights at her husband's residence, but the marriage is not consummated on this occasion. Various rites and usages are practised during the three days, but as this paper has already far exceeded the limits to which I originally intended to confine it, I shall content myself with briefly adverting to two of the most singular customs. The one is the untying of the *kankan* or bracelet of *kusa* grass, which previous to the marriage is bound on the right-hand of the bride, and left of the bridegroom.

The bride and bridegroom being seated opposite to each other, proceed to unravel the knots and mazes of their respective *kankans*. Should the husband succeed in undoing the bracelet of the wife before she has untied his, the feat is considered typical of his future superiority in domestic life, and great rejoicings are immediately made by his attendant relations. If, on the other hand, the lady should first unravel the bracelet, her friends celebrate her dexterity, in noisy and triumphant songs of applause.

A curious game of chance also takes place between the newly married couple. A large tub or caldron of water is placed before them, and jewels, gold-mohurs, and rupees are thrown into it. The bride and bridegroom plunge their hands into the basin, and whoever succeeds in extracting the larger quantity of jewels or money from its depth, at one dip, is supposed to win the game. The old English amusement of Snap Dragon was regulated, I believe, on similar principles.

Childish as these practices may appear to us, they are at any rate harmless, nor with reference to the youth of the parties engaging in them, would they appear to merit the censures of the cynic. Who has not engaged in similar triflings, and felt the pleasure which such innocent amusements excite, in the days of youth and joyousness, when the heart is as yet whole, and unscathed by the cares and cankers of time?

On the expiration of her three days residence at the house of her lord and master, the bride returns to her relations for a period of 1, 3, or 5 years, and she is then brought home by the bridegroom to as-

sume the duties of the married state. This second bringing home of the wife is termed *gona* or *gaman*, and is usually the consummation of the marriage; but the *gaman* may be altogether dispensed with by the performance of the *phir-pattah*, or changing the stools of the bride and bridegroom, when the *Hom* is celebrated.

Such then are the rites and usages by which the marriage of a Raja is marked among the Játs. The same rites and usages are observed by the meanest of his Ját subjects, who are equally tenacious as he may be of the ways of their forefathers. Some of the customs above enumerated are of course omitted by parties in inferior circumstances, such as the largesse to *Bhát*s and others, the distribution of sweetmeats to the marriage cavalcade, &c.; but this arises entirely from the want of resources, and never from the belief that there is anything absurd or unworthy in the ceremony itself.

The reader who has had the patience to peruse the above remarks, will doubtless have observed, that agreeably to Hindú law and practice, the father of the bride is by no means considered on an equality with the bridegroom, but is obliged to demean himself as an inferior* towards his future son-in-law. To this extraordinary and unnatural custom, and to the feelings of degradation and wounded pride, excited by it, we may attribute the dreadful crime of female infanticide.

I have omitted to mention that the marriage† of widows is permitted and practised among the Játs, and that the rite of *Suttee* is consequently unknown.

APPENDIX.

A.

The ancient name of *Díg* was *Díragh* or *Dírghpura*, and will be found mentioned in the *Skand Purán*, and 4th chapter of the *Bhagavat Mahátama*. After the disappearance of Sri' Krishna, *Brij-Mandal*, the country of *Brij*, became deserted. Brijr Nab, the son of Pridhun and grand-father of Krishna, presented himself one day before Sandil Rishi, the celebrated sage (who had resided in that holy quarter for upwards of a thousand years), and asked him where Kanhya had fled to. The saint replied, he has not fled, he is still in *Brij*, though invisible; perform *tapasya* (religious penance) and he will re-

* He washes the bridegroom's feet as stated above, an unequivocal recognition of inferiority on his part—Sic passim.

† Perhaps the term *marriage* is too strong for this sort of alliance. It is what we call a left-handed marriage, and yet the issue of such marriages is considered in all respects legitimate.

appear to you, fear nothing; BRIJR NAB then asked, But where am I to reside? He answered, In the following places, which will revive and flourish under your auspices, make thou thy Royal abode;—*Govardhan, Dírghpura* or *Díg, Mathura, Mahában, Nandgrám* and *Barsana**."

The above six towns are considered the most distinguished of all the holy *bans* or places of pilgrimage in the circle of *Brij*.

Close to the fort of *Díg*, which is only separated by a wet ditch from the *bhowans* or garden-palaces, are two places greatly distinguished in the *Mathura Mahátama*, or traditionary history of *Mathura*, and the *Brimha Bybart*, or transformations of KRISHNA. One of them is called *Krishna-kund*, or the pool of KRISHNA, and the other *Sámbar*, a corruption of *Swyambara*, the free or self-election of a husband.

At this public place the princes of the country used to assemble on great occasions of marriage. The lady having performed the tour of the circle where they stood, signified her choice by throwing a garland of flowers upon the neck of the Prince she preferred. There are many instances of this practice on record. In the pleasing history of the loves of NÁLA† and DAMYANTI, the poet elegantly describes the *Swyambara* or election of DAMYANTI, whose sagacity enables her to distinguish the *real* from the *false* NÁLAS, and whose affection teaches her to prefer the mortal object of a mutual passion, to the Deities who from envy and malice had assumed the form of her lover.

The latest *Swyambara* perhaps known, occurred at *Kanouj*, and was attended with serious consequences, as the animosity it excited between the father of the princess and her lord laid India open to Muhammedan aggression, and paved the way for European ascendancy; (see Quarterly Oriental Magazine for 1825. The choice of DROUPADI.)

B.

For the edification of the curious in such matters I subjoin the translation of a Hindí paper, shewing the amount and quality of the *pethya* of a *Raní*.

* For the satisfaction of the Sanscrit scholar I subjoin the Sanscrit *shlok:*

गोवर्द्धने दीर्घपुरे मथुरायां महावने।
नन्दिग्रामे बृहत्सानौ कार्या राज्यस्थितिस्त्विय। १

† An elegant edition of NA'LA and DAMYANTI, as contained in the *Mahabhárat*, has been given to the public by Professor BOPP.

Amount of allowances, money, &c. issued from the godowns of the Sirkar to Rani, Sambat 1885.

Cash yearly.	Rs.	As.	Ps.
Pay for bearers,	39	12	0
Ditto for Dewriban or Door-keeper,	24	0	0
To Hardeo, maker of sweet-meats,	57	12	0
To Munsa, vender of pan (7 pans per diem),	3	8	0
For twine and pack-thread,	0	10	0
For Sewchoudassi or the 14th Phagun, presents to the Jogis,	15	0	0
For Huli and Daséra,	20	0	0
For Tij Sáwan, the 3rd day of the month of Sáwan,	15	0	0
For medicines, &c.	19	3	3
For dyeing cloths,	8	2	0
Attah, 5 mds. 20 seers,	58	13	0
Dal, 8 mds. 10 seers,	8	4	0
Ghee, 5 mds. 2 seers,	50	8	0
Salt, 2 mds. 11 seers,	2	10	9
Rice, 1 md. 5 seers,	2	8	6
Sugar, 37 seers,	7	6	3
Gur, 2 mds. 5 seers,	5	5	0
Oil, 2 mds. 20 seers,	10	0	0
Barley, 9 mds.	6	0	0
Dal of gram, 20 seers,	0	8	0
Sínkh, 20 seers, (grass, of which brooms are made),	1	0	0
Spices, such as haldi, dhania, &c.	3	2	0
Cloths.			
Wrappers and quilts,	5	8	0
2 pieces printed cloth, (chintz of Jeypur,)	6	0	0
1 ditto ditto, (of Agra,)	4	8	0
1 piece Sallie cloth,	2	0	0
1 piece Jhoonah ditto,	2	0	0
½ piece Mashru of Agra, (silk and cotton mixed,)	1	6	0
7 yards Gazi cloth,	0	8	0
7 ditto Garrah cloth (coarser cloth),	1	8	0
3 hath Dcriace cloth,	0	3	0
5½ pieces Metah cloth of Shajahanpur for Lahenga or petticoat,	13	12	0
4 ditto printed cloths (green chintz),	8	0	0
2 ditto ditto (ditto yellow),	2	0	0
51 yards black printed cloth,	6	0	0
2 ditto red cloth,	0	8	0
2 Dhotis,	2	0	0
1 piece Chinese chintz, 12 yards (probably English),	24	0	0
9½ yards Metah cloth for dopatta,	2	0	0
4½ ditto Mamudi, ditto,	1	8	0
2 pieces ditto for Duhar,	12	0	0
1½ ditto Garrah cloth of Biana,	3	0	0
6½ ditto Metah cloth, in honour of "Sáwan Tij," (3rd day of Sáwan,)	18	12	0
1 ditto Dhoti for Sanjáp,	2	8	0
4 pair shoes,	2	8	0
Colours for cold weather,	8	2	0
Total Rupees,	489	3	9

C.

The ode alluded to will be found in the 6th Book of the Gulistán, Story 6th. It begins thus, چہ خوش گفت ذالی بفرزند خویش and the translation which has at least the merit of fidelity is as follows :

"Well spoke the Matron ! who beheld her son
"Prostrate the Pard—with elephantine chest—
"Wouldst thou ! but think upon thy childhood, when
"Helpless, thou us'd to cling upon my breast—
"Thou wouldst not, now a warrior bold—
"Oppress me—me thy Mother old !"

II.—*Report on the Geology of Hyderabad. By* H. H. Voysey, *Esq. Surgeon and Geologist to the Great Trigonometrical Survey of India,* 1819*.

The country in which Colonel LAMBTON carried on his Trigonometrical Survey, during the months of January, February, and March, 1819, lies between *Hyderabad* and the *Godavery*. The most northern station being the hill of *Shivalingapah*, near the *Godavery*. The most eastern, *Chittial* near *Maidak;* and the most western, *Oudgir*.

The country between these points was traversed in many directions, and the nature of the rocks, minerals and soils described; and although in many instances it was not possible to ascertain the extent of the ranges by tracing them through the jungle, yet the appearance of an identical or nearly similar rock taking the same direction has been thought a sufficient proof of the continuity of the formation.

* The papers of Doctor VOYSEY have long been anxiously inquired for by his friends in India. After bis death it was known that his numerous manuscripts and journals had come into the possession of the Asiatic Society, and had been placed in the hands of some of the Members of tbe Physical Committee, in order to be digested and arranged for publication. This arduous but pleasing task had in a great measure been accomplished by the successive labours of Mr. WILSON, and Captain FRANKLIN but principally of the former. The relatives of Doctor VOYSEY in England, anxious only for the fame of one whose memory was so dear to them, had freely and feelingly consented to such use being made of his papers; when a temporary check was experienced from an unexpected quarter. Mr. HAVELL, a professional artist, had it seems given Dr. VOYSEY a few hints in sketching; and had made some illustrative drawings (though but one such was found among the papers) which he considered of sufficient value to be made the subject of a formal claim. " Dr. VOYSEY's valuable collection," says his letter, " his writings, and my drawings have been seized upon *by some calling themselves the Asiatic Society;* they are about to publish a selection from his writings, without consulting his friends, or making them any *compensation!*" It might have been presumed, that a man who had lived in India would have known that scientific works were not very likely to pay the expence of publication, much less to realize profit, however the more favored productions of artists might succeed! From this and other causes however the digest of his journals has been hitherto prevented from seeing the light, and they were less likely to do so in the present depressed state of the Society's pecuniary means. We are therefore happy in tbe permission granted us to publish them in the pages of this journal, either separately as has been done with BUCHANAN's Statistics, or incorporated chapter by chapter with the monthly numbers of the work. As a commencement, we have selected the reports submitted to the MARQUESS OF HASTINGS, by Dr. VOYSEY himself, as Geologist to the Trigonometrical Survey, in 1819 and 1820. These in fact form the best digest of his proceedings for those two years, and they will serve to introduce the reader to a preliminary knowledge of the Geology of the Hyderabad provinces, while their separation will not interfere with the text of the journal itself.—ED.

Any person who has travelled in India will be aware of the difficulties attending a deviation from the main road, especially in an unfriendly country; this circumstance, with the necessity of attending to those professional duties which were incompatible with any protracted absence from the camp, will, it is hoped, be a sufficient apology for any apparent deficiency in my attempt to take a general survey of the mineralogical character of the country in which my partial observations have been made.

It may also be proper to state in this place, that the scarcity of all kinds of meteorological and other apparatus prevented me from making any other than very general observations; and although provided with one of Gay Lussac's *Syphon* Barometers, yet the scale had been so imperfectly graduated in Calcutta, as to allow me to place but little reliance on the observations and calculations of heights obtained from it. This latter defect is of minor importance, since the heights of all the trigonometrical stations will be determined by Colonel Lambton himself in the progress of the survey*.

The geology of the country between the *Kistnah* and *Godavery* admits of a very simple division, being distinguished from most other countries of a similar extent, by the existence of only two formations, differing very widely in their characters; viz. granite and Werner's flœtz trap, both of which give a striking and separate character to the scenery, cultivation, and vegetable productions. It is proposed, therefore, in this sketch, to bring together in a general view the principal characteristics of each division; to contrast them; and finally to enumerate the minerals collected, giving their description and analysis as far as it could be performed.

After quitting the limestone on the banks of the *Kistnah* [to be hereafter mentioned], granite alone is the basis of the country, even to the *Godavery*.

Certain characteristics belong to it throughout, which sufficiently mark its identity and contemporaneous formation. They are,

1st. The great irregularity of extent and direction of the ranges.

2nd. The narrow but lengthened veins or dykes of trap with which it is intersected, all running nearly in the same direction, and the masses of micaceous and sienitic granite with which it is intermixed.

3rd. The predominance of the red colour, arising from the red felspar, which is frequently in large crystals, giving the granite a porphyritic appearance.

* Colonel Lambton computes the height of *Hyderabad*, above the level of the sea, to be 1800 feet.

4th. The concentric lamellar and distinct concrete structure; the great facility of decomposition; the rounded appearance of the decomposed masses, logging stones, and tors.

5th. The numerous lakes or tanks spread all over the country, some of which are of very large dimensions.

1st. The granite is rarely seen in ranges until a near approach to *Hyderabad*; when it first appears after crossing the *Kistnah*, it is seen principally in rounded blocks, scattered without order, and in flat masses of large dimensions, very little elevated above the surface. These however increase in size and height as we proceed to the north westward, where in the waving plain, in which the two remarkable hills of *Nelgondah* are situated, numerous rounded isolated hills are seen spread over it in every direction, unconnected even by their bases. The hill of *Nelgondah* presents the first approach to the continued range; its summit is about 1000 feet above the plain, declining gradually to the north-west until it reaches that level. At *Mulkapúr* more regular granitic ranges in the same direction appear, and are continued to *Hyderabad*, not without frequent interruptions, and the interposition of large isolated mountains of solid granite. Here, however, it must be observed, the granite assumes a new character, derived from the numerous logging stones and tors of the most grotesque figures and extraordinary position. The origin of these logging stones may be traced to the tors, which are masses of tabular granite, generally not more than two or three in number, the interstices of which, admitting the rain, subject the granite to a more rapid decomposition in those than in other parts of the masses, and ultimately give them the rounded forms and tottering bases* observed.

It may be asked, wherefore other rocks, such as greenstone and basalt, do not assume similar appearances in decomposition? It is probable that a sufficiently satisfactory reason may be assigned in the different directions of their interstices, which in the granite are horizontal, whilst in the above-named rocks they are vertical.

The last place to north-west where these logging stones were observed is *Bichkúnda*, in latitude nearly parallel to *Oudgir*, and not far distant from the place where the granite becomes every where covered by the trap.

Three formations of quartz rock have been observed, viz. at *Secanderabad*, *Jogipet*, and *Pitlam*, the base of the whole being granite. That

* See description of the logging stones in Cornwall, in the Transactions of the Geological Society.

of *Jogipet* is the most extensive, being three or four miles in length, above fifty feet high in its highest part, and three or four hundred yards in breadth. It is crystallized in *rhombs*. Some of the angles are very perfect.—2nd. The number of trap veins which have been particularly noticed amount to seven, four of which are in the neighbourhood of *Hyderabad*, one at *Koulas*, and two in the neighbourhood of *Maidak*. The vein which passes near *Golcondah* has been traced to the eastward nearly six miles, and is said to be continued nineteen miles farther. They all resemble each other in composition, in their direction (nearly east and west), and in other particulars, of which a more detailed description will be offered in a paper devoted particularly to the description of the country around *Hyderabad*.—3rd. From *Mulkapúr* to the *Godavery* the granite is most usually red and porphyritic. The red granite is much more subject to decomposition than the white, from the abundance of iron contained in the felspar. The granite of *Nelgondah* is the whitest, particularly that from the summit of the mountain. The mixture of micaceous and sienitic granite, in veins and in rounded lumps, has been observed at *Tuperty*, at *Nelgondah*, at *Secanderabad*, and in the bed of the *Manjera* near *Suldapuram*.—4th. It will be easily seen from the previous description of the ranges, that numerous small valleys and plains must exist with such an arrangement of mountains. These valleys covered with water during the rainy season are artificially divided by large, and in some instances, by stupendous banks or mounds of stones or earth, leaving outlets for the passage of the water collected in the upper part, to fertilize the lower grounds during the dry season. The ground by these means is enabled to produce two crops of rice in the year, with sometimes an intermediate one of the holcus saccharatus *(Jowar)*; but this depends on a peculiarity of the soil, to be adverted to in the description of the trap country. On the borders of the lakes or tanks thus formed are seen the date and palmyra trees in great profusion, whilst the water itself is covered with aquatic birds and waders. Within about 20 miles radius from the station of *Suldapúr*, on a misty morning, thirty-three of these lakes were counted, most of them of considerable dimensions. On the granite hills, in the interstices of the rocks and on the barren soil, the result of their decomposition, are only seen dwarfish plants of the custard-apple, cassia auriculata, butea frondosa, and a few others. Large trees are only seen in the valleys, where the soil is intermixed with richer materials, and water is more abundant.

These are the principal characteristics of the granite country as seen at *Hyderabad, Maidak, Banchapilly, Koulas*, &c.

The next division of the country consisting of basaltic trap is interesting from many causes: they are, viz.

1st. Its appearance on the upper half or summit only of some of the granite hills.

2nd. Its transition from a highly crystalline compound of felspar and hornblende (the greenstone of WERNER) to coarse and fine basalt, to wacken, and to iron clay, the passage being sometimes so gradual from one to the other, as to give the intermediate mineral an indeterminate character.

3rd. The direction and peculiar form of its ranges, the waving form of the land in some instances, and, in others, its flatness and conical peaks.

4th. The intermixture of carbonate of lime with the wacken, the basalt, and even with some of the granite in the neighbourhood of the trap.

5th. The black cotton soil, arising generally from the decomposition of the basaltic trap, forming the banks of the rivers, and covering their neighbouring plains. It is also found at a considerable distance from that rock, and on heights so elevated as to preclude this cause in attempting to explain its origin.

1st. At *Tandmanur*, *Suldapuram*, *Madcondah*, *Koulas*, *Baktapúr*, and *Adampúr*, the granite forms the basis of the hill, and sometimes its lower half, and is covered by the trap, which in some instances has the appearance of having flowed partly down the hill when in a fluid state. In the immediate neighbourhood are hills, whose summits although much lower, shew no trace of the trap rock having once covered them. In one instance, the hill of *Koulas*, a vein of trap crosses one of these hills, but its appearance indicates rather an ejection from below than a deposit from above: it affords at the same time a good example of the identity of the greenstone, the basalt, and the wacken.

2nd. The places the most remarkable for the changes which the basalt undergoes are *Buktapúr*, where it passes into wacken, *Koulas*, as above-mentioned, *Beder*, where the iron clay passes into both. The basalt is not always the lowest, as its greater specific gravity would lead one to presuppose, but is frequently above wacken. It is, however, always found beneath the iron clay. As a general description of the basalt, it may be observed, that it decomposes into round masses, having an exterior crust of a few lines in breadth, of a yellow or lighter colour than the interior. In the ravines, and where exposed to any depth, it resembles very much the drawings in vol. viii. page 171, *Thompson's Annals*, of the Rowley Rag Basalt. Basaltic columns were observable

in two places only, at *Múngánal* and at *Oudgir*; at the latter place, the largest exceeded a metre in diameter, was about three feet in height, eight-sided, and the interstices between the columns were filled with green earth and globular wacken.

3rd. The direction of these ranges is to the north-west, although the interruptions are numerous, and it frequently happens that a range appears to cross at right angles to the main one. Their form is generally much flattened, with two or three conical peaks; sometimes the continuation of the flat range is interrupted by a valley, which presents the appearances of the embrasure of a fortification, which is repeated several times in an extent of ten or twelve miles. The summits of *Tandmanur*, *Medcondah*, *Burgapilli*, *Monegal*, and *Mungánal* are of waving land, rounded summits, separated by ravines of different depths, which in the rainy season afford a passage for the water into the plains, depositing on the banks of the streams and rivers the black cotton soil, which is the result of the decomposition of the trap rocks.

4th. At *Bucktapúr*, at *Shivalingapah*, at the *Godavery*, at the *Laendy* river, near *Daiglúr*, and at *Chilliriga*, near the *Mangera*, carbonate of lime is intermixed with the rock, whether sienitic, greenstone, granite, basalt, or wacken.

At *Daiglúr* large rounded masses of a small grained red granite are enveloped in a cement composed of carbonate of lime, red felspar, and quartz in grains: this extends to a few miles above and below the ford. At *Chilliriga* the basalt and wacken, or substance intermediate, is mixed with a greenish limestone which has large vacuities in it, from its decomposition taking place more slowly than the trap with which it is mixed. In the space of a few feet pure basalt is here seen passing into wacken, and the latter into the mixture of limestone, which last ultimately passes into pure limestone.

5th. The black cotton soil is not only found on the banks of all the rivers and streams generally, to the height of about thirty feet, and where it has been deposited by floods, but also in places two or three hundred feet above those rivers. On the road from *Beder* to *Shelapilly*, which lies over a stratum of iron clay, varying from 100 to 150 feet in thickness, four well defined zones of black cotton soil are crossed, running north and south and lying between ridges of iron clay. We encamped at *Shelapilly* on one of these zones, which had nearly a north and south direction, and from a conical elevation, forty feet in height, composed of the same soil, observed the iron clay on each side about half a furlong distant. This soil is rich and peculiarly adapted to the cultivation of dry grains, which denomination is given to various species

of panicum, the holcus saccharatus, maize, zea, &c. from its power of retaining moisture, which enables it without artificial irrigation to produce fine crops during the dry season. The plasticity, as found a foot below the surface in the month of March, is such that it could be kneaded into balls with the hand. In some places where the black cotton soil is intermixed with that from the decomposition of the granite, three crops are produced, two of rice and one of dry grain, the latter on the ground from which the first crop of rice has been cut.

This soil is first met with at *Patancherú*, where it is intermixed with the debris of the granite, and has been no doubt deposited there by the floods of the *Manjera*, from which it is distant about ten miles. A corresponding change also takes place in the appearance of the country, which assumes a richer aspect: the natural productions of each soil being there intermixed.

The hills from which this soil proceeds have formerly been cultivated even to their summits. In most places small piles of stones, formerly cleared from the land, and occasionally the remains of a stone boundary, were the only memorials of former cultivation. The poa cynosuroides *(Cusa grass)* grows in the greatest profusion; it is rendered so dry in the months of March and April, that a very slight ignition will cause it to burn with inconceivable rapidity and fury. Our camp was once in considerable danger from this circumstance. The vegetable productions most frequently met with are, the

Butea frondosa,	Ficus, three species,
Cassia Malabarica,	Tectona grandis,
Semecarpus anacardium,	Tamarindus Indica,
Averrhoa carambola,	Mangifera Indica,
Dalbergia acuminata,	Spondias Mangifera.

Mimosa, six species, and many others which my botanical knowledge did not enable me to name without the aid of their flowers. All these seem to acquire their greatest perfection in the places where the two above-mentioned soils are intermixed.

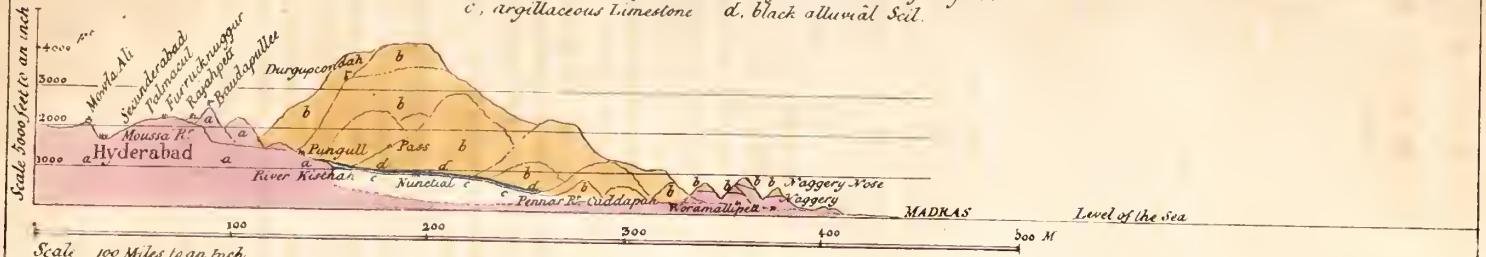
It only remains to notice some anomalous appearances in the trap at *Medcondah*, and in the wacken at *Shivalingapáh*.

At the former of these places was observed in numerous detached masses, flint with a very rough external surface, varying from a few inches to a foot and a half in diameter, some of them deeply connected, so that their size may be supposed much greater; also numerous pieces of a siliceous stone containing shells*, the specific gravity of which varies

* Turbo cyclostoma, land-shells.

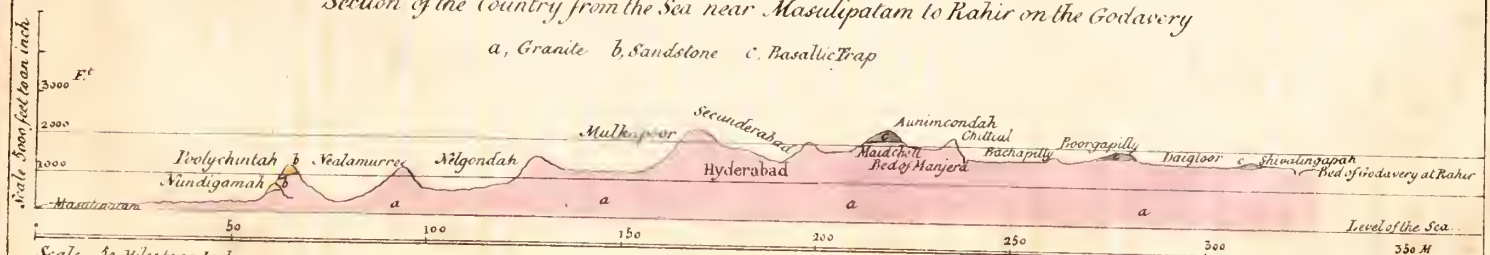
Section North & South of the Country between Madras and Hyderabad

a. Granite b. Clagslate including Sandstone and flinty Slate
c. argillaceous Limestone d. black alluvial Soil.



Section of the Country from the Sea near Masulipatam to Rahir on the Godavery

a, Granite b, Sandstone c, Basaltic Trap



J. B. Tassin lith

Asiat. Res. Vol. XIII

from 2 to 2·5. The shells do not effervesce in acids, although some of them still preserve their external polish. Internally some of these stones, particularly the lighter, appear to pass into flint, whilst their external surface effervesces in acids.

Not far distant, lumps of a greyish yellow limestone, crystalline, and earthy, the latter containing shells nearly similar to those in the siliceous stone.

At *Shivalingapah* the wacken contains shells which preserve more of their carbonate of lime. Those appearances are the more singular, since the land at *Medcondah* is a continuation of the basaltic trap at an elevation of nearly 2000 feet above the level of the sea, distant from the *Manjera* 14 miles, and 200 feet above the bed of that river.

III.—*On the reputed Descendants of Alexander the Great, in the Valley of the Oxus.* *By Lieut.* Alexander Burnes, *Bombay Army.*

[Read at the Meeting of the Asiatic Society, 29th May, 1833.]

In speaking of the existence of Grecian colonies in the remote regions of Central Asia, said to be descended from Alexander of Macedon, it is necessary to premise, that I am not indulging in speculation, but asserting a lineage of various tribes of people, that is claimed by themselves, and merits therefore our attention. Marco Polo is the first author who mentions the existence of such a people, and informs us that the Meer of *Badakhshán* laid claim to a Grecian origin. The emperor Baber corroborates the testimony, and the historian of his grand-son Akbar, the renowned Abul Fazl, points to the country of the *Siahposh Kafirs*, north of *Pesháwar*, as the seat of these soi-disant Macedonians. Mr. Elphinstone has, I think, successfully refuted this supposition, for the *Kafirs* are a savage and mountainous tribe, without a tradition on the subject.

The great elevation of their country appears to me satisfactorily to account for all their physical peculiarities, nor can I look upon these people as any other than the aborigines of the plains, who fled to their present elevated abode in the wars that followed the introduction of Muhammedanism. *Kafir* means simply an infidel, and is applied by Muhammedans to all who disbelieve in their prophet. Mr. Elphinstone confirms the statement of Marco Polo by telling us, that the chief of *Darwáz*, in the valley of the Oxus, claimed a descent from Alexander, which was admitted by all his neighbours. Such was the extent of information with which I entered the valley of that river, sufficient it

will be said to excite the utmost curiosity, and it will be seen that I found ample encouragement in the investigation of such traditions while in the very seats of their existence.

If it was believed that the chiefs of *Badakhshán* and *Darwáz* alone laid claim to these hereditary honors, what was my surprise to find that there were six other personages established in them, at least to the satisfaction of the people. The chiefs that extend eastward of *Darwáz*, and occupy the provinces of *Kúlab-shagnán* and *Wákhan*, north of the Oxus, assert the same descent. The MEER or chief of *Badakhshán* receives in modern times the honors mentioned by the Venetian traveller. He has the title of *Sháh* and *Málik*, or king, and his children, that of *Sháhzádá* or Prince; but this ancient house has been subverted within these twelve years by the MEER of *Kúndúz*, and *Badakhshán* is now held by a *Túrk* family. To the eastward of *Badakhshán*, and extending to *Kashmír*, lie the hill states of *Chitral*, *Gilgit*, and *Iskardo*, where the claims to a Grecian descent are likewise conceded to each of the princes. The first of these has the title of *Shah Kator*. The present ruler is of small stature, and possesses as great a celebrity in these countries for his long beard as the *Shah* of Persia. The chief of *Iskardo* occupies a singular fortress on the Indus and N. E. of *Kashmír*, which he has the hardihood to assert was constructed in the days of Alexander himself! This country borders on little Thibet or *Baltí*. Nor is this the ultimate limit of the tradition; for the soldiers of the *Túnganí* tribe, who are sent from the western provinces of China, and garrison *Yárkand* and the neighbouring cities, also claim a Grecian origin. They however seek with greater modesty a descent from the soldiers of ALEXANDER'S army, and not from the conqueror himself.

Such is a correct list of the reputed descendants of ALEXANDER THE GREAT, and it is in some degree confirmatory of their claim, that the whole of these princes are *Tájiks*, or the aborigines of this country before it was overrun by *Túrkí* or *Tatár* tribes. But how shall we reconcile these accounts with the histories that have travelled down to our times, whence we learn that the son of PHILIP did not even leave an heir to inherit his gigantic conquests, much less a numerous list of colonies that have survived a lapse of more than two thousand years in a distant quarter of Asia? Whether their descent is viewed as true or fabulous, the people themselves acknowledge the hereditary dignity of the princes, and they in their turn claim every royal honor and refuse their children in marriage to other tribes. These *Tájiks*, being now converted to *Islám*, view ALEXANDER as a prophet, and to the distinction

which they derive from his warlike achievements, they add the honor of being related to one of the inspired messengers of the Deity. I have had opportunities of conversing with some members of the *Badakhshán* family, but there was nothing in form or feature which favored their Grecian lineage, nor is there any thing in the languages of any of these tribes (of all of which I have specimens), that indicate a connexion with Greece. The people are fair complexioned, and not unlike the Persians of modern times, while there is the most decided contrast between them and the *Túrks* and *Uzbéks*.

We learn from the historians of Alexander's expedition that he warred in the kingdom of *Bactriana*. The city of *Bálkh*, that lies in the vicinity of these territories, is readily fixed upon as that capital of the Greek monarchs. Setting aside every local identity, the modern inhabitants will inform you that the country between *Bálkh* and *Cábul* has the name of "*Bakhtar Zemín*," or the *Bakhtar* country, in which we recognise *Bactria*. This fact renders it by no means impossible, that a Grecian colony had some time or other existed in the country. It may therefore be supposed, that the dynasty which succeeded Alexander in his empire ascended the valley of the Oxus, the fertility of which would attract them. They would then be conducted by *Chitral* and *Iskardo* into *Baltí* or little Thibet, and the neighbourhood of *Kashmír*, and we may perhaps account for the early civilization of that beautiful valley in such a migration of Grecian colonists. The introduction of the religion of Muhammed into every country seems to have been fatal to historical annals of a prior æra, and I doubt not, that any traces which may have existed of the Macedonian inroad, or of the Seleucidæ, their successors, disappeared in that great revolution. The countries on the upper course of the Oxus lay beyond the line of *Tatár* invasion, and I infer from the modern language of *Badakhshán*, which is Persian, and its connexion with that country, that the tribes on the Oxus followed the destinies of the Persian empire. This would favor the supposition of their having been conquered by Alexander. If we cannot bring ourselves to concede to these moderns the illustrious lineage of Alexander the Great, we must still receive their traditions as the most concurring proof of his having overrun these countries; and till some well-grounded argument can be brought forward to the contrary, I cannot for my own part deny the title of the chiefs to the honors which they claim. I received the information from natives of these countries, and as they entertained no doubt of its truth and authenticity, I have contented myself with recording that, upon which others will be able to enlarge and speculate.

IV.—*On the "Topes" and Grecian Remains in the Panjáb.* *By Lieut.* Alexander Burnes, *Bombay Army.*

[Read at the Meeting of the 29th May.]

The "tope" or mound of *Manikyála* in the *Panjáb*, which is described and drawn in Mr. ELPHINSTONE's History of *Cabúl*, has long arrested the notice of the curious, both in India and Europe, some of whom take it to be a Grecian remain. We are deeply indebted to M. VENTURA, one of the Generals in RANJI'T SINGH's service, who lately laid open this mound at great expense, and put us in possession of much additional information regarding it. In my late journey through the *Panjáb* I went to *Manikyála*, and was fortunate enough to find several coins at that site, and to visit other buildings of a similar description to the "tope," which had not yet been seen or examined by Europeans. I was directed to the site of these by my friends Mons. ALLARD and COURT, who are also in RANJI'T SINGH's service; through the kindness of Mons. ALLARD, I had an opportunity when at *Lahore* of looking at the reliques found by General VENTURA at *Manikyála*.

There is a brief description of them published in the researches of the Asiatic Society, but I may here observe that they consist of three cylindrical boxes, of gold, of pewter, (or some mixed metal,) and of iron, which were found cased one within another, and placed in a chamber cut out in a large block of stone at the foundation of the pile. The gold box is about three inches long and one inch and a half in diameter; it is filled with a black dirty substance like mud, half liquid and mixed up with small pieces of glass, or amber, which would suggest an opinion, of its once being cased in a glass that had been fractured and shivered. Among this substance two coins or medals and a piece of string or twine were found. The smaller coin is of gold, and about the size of a six-pence, having a human figure, and the four pronged instrument which marks all the *Minikyála* coins. The other has two lines of rude characters, probably Hindú, on one side, and no writing or symbol on the reverse. Many other coins and reliques were found during the opening of the "tope," and the people informed me that some human bones were also disinterred; but it is unnecessary to make any further allusion to them on the present occasion.

On my arrival at *Manikyála* on the 6th of March, 1832, I had an opportunity of appreciating the valuable services of M. VENTURA, by a personal inspection of the "tope," now laid open to view by his persevering labours. He had first endeavoured to enter the building from below, but failed on account of the great solidity of the structure;

The Colossal Idols, or Búts, of Bamian.

The Tope of Belar. (see p. 309)

further observation had discovered to him that there was a shaft or well (if I can use the expression) descending into the building from the top of it, and here M. VENTURA dug with success. He first cleared the well which extends about half way down, and is flagged at the bottom with large blocks of stone; he completed the work by heaving up these enormous blocks till he reached the foundation, where he was rewarded by the cylinders which I have described.

I was much struck with the position of the "tope" of *Manikyála*. It stands on a spacious plain, and may be distinguished at a distance of sixteen miles. I did not expect in a place of such celebrity to find my search for coins and antiques rewarded beyond the most sanguine expectation, since none are mentioned to have been seen by the gentlemen of the *Cabúl* Mission, and I only heard of those that M. VENTURA had found in the tope. I procured however two antiques and about 60 or 80 copper coins, the value of which is much heightened by their corresponding with some of those that M. VENTURA found in the interior of the "tope." One of the antiques is a ruby or piece of red crystal, cut into the shape of a head, with a frightful countenance and very long ears. While the other is an oval cornelian, bearing the figure of a woman holding a flower. She is gracefully dressed in a mantle, and the execution is superior*.

There have been several surmises thrown out as to the site of *Manikyála*, but I do not for a moment hesitate to fix it as *Taxilla*, since ARRIAN expressly tells us, that that was the most populous "city *between* the Indus and Hydaspes." On the latter river too I have been so fortunate as to stumble on the ruins of two cities opposite to each other, in which I believe will be recognized the Nicæ and Bucephalia of ALEXANDER.

From the *tope* of *Manikyala* my inquiries extended to the neighbouring country, where several other buildings of a like nature are to be found. One of them is nearer the town of *Ráwil Pindí*, but it is much dilapidated, and my attention was directed to the village of *Usmán*, at the base of the Himálaya, and about 25 miles eastward of the Indus. On the north of a range of hills, and about a mile beyond the village, stands the "tope of *Belar*," as it is called by the inhabitants. I have annexed a sketch of this building, from which it may be inferred as of the same era as *Manikyála*. Neither of the buildings are perfect, and the tope of *Belar* differs in its greater length of body, though it has

* I regret extremely to say, that I have lost these valuable reliques, though impressions of them remain.

only a height of 50 feet, or 20 less than *Manikyála*. The general outline of the building too is somewhat varied, but the small pilasters are to be recognized, though the mouldings are numerous. The tope of *Belar* too has been opened from the top at some former period, and a section of it would present a counterpart of the plan of *Manikyála*. The few coins which I found here are similar to those of that tope, but no where did I receive the least trace or tradition regarding these buildings.

Like one in search of the philosopher's stone, I found myself referred from place to place, and at *Usmán* heard of a "tope" near *Peshâwar*, which I afterwards visited. It is about five miles from the city, but in so decayed a condition that the remains would not suggest any idea of the design without seeing those of the *Panjáb*, though they were one hundred feet high. There is however a "tope" in a perfect state of repair in the great *Khyber* pass to *Cábul*, and about 20 miles from *Peshâwar*, but I could not visit that building from the troubled state of the country. The natives of *Peshâwar* assured me also that there were 8 or 10 such "topes" in their neighborhood towards the *Kafir* country in *Swat* and *Búneir*, but the extent of their information leads no further than that they are "topes" or mounds of a prior age.

Seeing that the structures of *Manikyála* and *Belar* are both pierced by a shaft or well, descending into the building, I incline to an opinion that in these "topes" we have the tombs of a race of princes who once reigned in upper India; and that they are either the sepulchres of the *Bactrian* dynasty or their Indo-Scythic successors, mentioned in the Periplus of the second ARRIAN.

V.—*Note on Lieutenant Burnes' Collection of Ancient Coins. By* James Prinsep, *Sec. &c.*

[Read 29th May, 1833.]

Considering the short space of time allowed to a traveller, in his rapid passage through a foreign country, for the pursuit of objects not immediately connected with his errand; and the disadvantages which his own disguise, and the suspicions of the natives oppose to his search after the very rare relics of antiquity, which may have escaped destruction for twenty centuries in their country:—considering too that the inhabitants are unable to appreciate the value of such objects, and mostly ignorant of the demand for them among the inquisitive natives of the west; Lieutenant BURNES may be deemed very successful in the

store of coins he has brought back from the Panjáb and from the valley of the Oxus.

Of pure Bactrian coins, he will be able to add at least three to the cabinets of Europe; upon one of which the name of EUTHYDEMUS is quite distinct: while of the Indo-Scythic or subsequent dynasties his store is so ample as to afford ten for the Bombay Literary Society, and as many more for our own cabinet, besides those he takes to Europe; and among the latter is one coin of the dynasty which supplanted the Macedonian princes of Bactria, calculated to excite much curiosity among antiquarians.

This abstruse subject is already deriving elucidation from the discovery of coins in many places, which is a forcible proof of the advantage of giving early publicity to such discoveries, and to the comments of antiquarians upon them: already has Dr. SWINEY at Karnál, following up his former researches, fallen upon two silver coins of APOLLODOTUS and MENANDER, neither of them duplicates of the two which rewarded Colonel TOD's labours. I hope soon to have it in my power to engrave these coins as a continuation of the plate I am now about to describe, in illustration of some of Lieutenant BURNES' collection. Captain WADE has also presented me with a few coins, obtained in his recent tour down the *Satlej*. To General VENTURA however we still look for our richest harvest, because his coins have a definite connection with an existing monument; and when that meritorious officer shall see how Lieutenant BURNES has taught us to appreciate his labours at *Manikyála*, we hope he will no longer think us unworthy of being made the medium of their introduction to the knowledge of the world.

Macedonian and Syrian Coins.

Having given in Plate V. a type of the coins of ALEXANDER, I need not stop to describe those brought from Persia by our traveller, a tetradrachma and two small coins of that conqueror in excellent preservation; the larger coin has a curious cypher composed of the letters P M H enclosed in a wreath; in numerals this would represent 148.

Captain WADE has presented me with a rarer silver coin of ALEXANDER, having a fine juvenile portrait of the conqueror before he assumed the horn of Ammon; and, on the reverse, Apollo seated on the peculiar oracular seat, holding an arrow pointed downwards, in the right hand (denoting clemency); his left hand resting upon a bow.

The epigraphe is ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ ΘΕΟΠΑΤΟΡΟΣ ΕΥΕΡΓΕΤΟΥ. On the exergue, the letter C; and on the left, a peculiar three-pronged monogram, resembling the letter A.

This coin is not mentioned by PINKERTON, and would doubtless be designated by him RRRR or *rarissimus*. It is engraved as fig. 1 of Plate VIII. (of coins); it was procured in Asia Minor by Dr. MARTIN, the German physician, lately in RANJI'T SINGH's service, and by him given to Captain WADE.

To return to Lieutenant BURNES' collection.

Pl. VII. *fig.* 1, represents one of three beautiful coins of ANTIOCHUS VI. or THEOS, of Syria, during whose war with PTOLEMY PHILADELPHUS, Bactria revolted. These are supposed by PINKERTON to exhibit the most perfect examples, both of manly and of monetal beauty, to be found among ancient medals. They are however common enough. The Epigraphe is, ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ ΕΠΙΦΑΝΟΥΣ. Device, Jupiter seated, holding a small victory.

Fig. 2. Another ANTIOCHUS, probably struck in Parthia, from the figure of the javelin-thrower.

Bactrian Coins.

Figs. 3, 4, 5, 6. These silver coins, tetradrachms, are known at once to be of Bactrian origin, from the sitting figure of *Hercules* holding his club, on the reverse, much in the same posture as that of *Jupiter* on the Syro-Macedonian coins. The epigraphe on fig. 3, a valuable coin and in fine preservation, is ΒΑΣΙΛΕΩΣ ΕΥΘΥΔΗΜ.. or "of king EUTHYDEMUS," the third king of Bactria. The only coin of this monarch hitherto known in Europe is described in MIONNET's *Description de Medailles Antiques;* PINKERTON says it is a gold coin, having "two horsemen with Bactrian tiaras, palms, and long spears" on the reverse; it is therefore quite different from the unique specimen before us.

Fig. 4 has the features of a different prince; the reverse is however similar to the last, and the three final letters of ΒΑΣΙΛΕΩΣ are visible: as are ..ΗΜ.. which can only form part either of Ευθυδ ΗΜος or of δΗΜητριος his son.

Fig. 5, of which there is a duplicate, is of a similar nature; the features corresponding with No. 3 or EUTHYDEMUS. There are two others of still ruder fabrication, distinguished by a more projecting forehead: they are illegible on the reverse.

Fig. 6. One of two silver tetradachms. These are more like Arsacidan coins, the stool on which the figure on the reverse sits having the form of those depicted in Vaillant, although the connection with the foregoing coins is very strong, the head dress and

formal curls, appertain to the Persian monarchs. The inscription is in the *Pehlevi* character: some of the letters resemble badly executed Greek.

These coins are all from *Khoja-o-bán*, the ruins of an ancient city N. W. of *Bokhara*, whence numerous gems and antiques were also procured.

Fig. 8, was obtained from the same place. A gold coin of one of the Sassanian kings of Persia, supposed to be Sapor *(Shápúr)*. The name and titles are very distinct in the *Pehlevi* character. It is remarkable that the usual supporters of the fire altar, two priests or kings, are omitted; unless indeed the rude ornaments on each side are intended to represent human figures holding swords. A silver Sassanian coin delineated in Hyde's *Religio Veterum Persarum* has similar supporters. Lieut. Burnes has also a silver Sassanian coin; it is curious from the contour of the fire altar being fashioned into a human profile; it was found at *Khiva*. I have not found room to insert it.

Fig. 9. One of twenty small Sassanian copper coins, which are very abundant in the same neighbourhood. They have a good head on the obverse, and a very rudely executed fire altar on the reverse*.

Fig. 7. A square copper coin from *Shorkot,h*, a fortress twenty miles from the junction of the *Jelum* and the *Chunáb* (the Hydaspes and Acesines) where Alexander lost his fleet in a storm. It is by some thought to be the fortress of the *Malli*, in the assault of which he was wounded. All that can be read of the inscription is ΒΑΣΙΛΕΩΣ.... On the other side the inscription is in *Pehlevi*. This coin may be ascribed with tolerable certainty to Menander, both because it resembles in shape the coin of that prince in Col. Tod's plate, and because the three first letters of the word which follows ΒΑΣΙΛΕΩΣ have much the appearance of ΝΙΚ, or ΝΙΚΑΤΟΡΟΣ, the epithet applied to Menander according to Schlegel. Journal Asiatique, Nov. 1828. The standing figure however, on the obverse, and the curious emblem on the reverse, supposed by Col. Tod to be a portable altar, agree rather with his coin of Apollodotus.

Pl. VIII. *fig.* 2. I must here introduce a coin procured from the same place by General Ventura, for which I am indebted to Captain

* A gold *solidus* of the lower empire was also found at *Khoja-o-bán*, of rude fabrication:—it is either of Marcianus, or more probably Mauricius—inscription DN MAVRC..TIb PP AVG. On the reverse, an angel holding the cross and globe with VICTORIA AVGGG. and below, CONOB.

WADE; it is a copper or brass coin of Antiochus, ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ, with a Grecian head on the obverse, and the perspective view of the after part of a boat on the reverse: the tiller of the rudder is worked from behind, as is even now the case in the river craft of the Indus.

A ruby seal antique, with a well-executed head of a Grecian female, was found at the same place.

Figs. 11, 12, 13, 15. The series of small copper coins found near *Manikyála*, and generally throughout upper India, which have a head on the obverse and a Bactrian horseman on the reverse, may be referred to the reign of EUCRATIDES I. since the gold coin from the neighbourhood of the Caspian Sea, described by BAYER, as having the same device on the reverse bears in legible characters the epigraphe "of the great king EUCRATIDES." Our coins of this type have never shewn us more than the words "King of kings," and in most of them (as fig. 13, ΒΑCΙΛΕΥ ΒΑCΙΛΕΥ) the Greek is so corrupted as to give the idea of a later epoch.

The type of the horse seems to have prevailed long afterwards in that part of the world, as fig. 14 evinces: it is a Hindú coin, of much later though of unknown date. The nagrí letters appear to be part of a larger inscription: their purport is therefore uncertain.

Fig. 10. A copper coin procured by Lieut. BURNES, in the neighbourhood of *Manikyála*.

Obverse. A king or warrior holding a spear in the left hand; and with the right sacrificing on a small altar (?). Epigraphe ΒΑCΙΛΕΥ^{C} ΒΑC.....ΚΑΝΗΡΚΟΥ.
C

Reverse. A priest or sage standing, and holding a flower in his right hand; a glory encircles his head; on the left, the letters ΝΑΝΑΙΑ —on the right, the usual Bactrian monogram with four prongs.

This coin is of very great value, from the circumstance of its being the only one out of many discovered in the same neighbourhood, upon which the characters are sufficiently legible to afford a clue to the Prince's name. In the onset however we are disappointed to find that none of the recorded names of the Bactrian kings at all resemble that before us*; yet there can be no doubt about any letter but that

* By way of convenience to those who have not the power of reference respecting the history of Bactria, to which I may often have to allude in the discussion of these coins, I subjoin a catalogue of its Kings, according to the authority of SCHLEGEL.—*Journal Asiatique*, 1828, *p.* 326.

preceding KOT, which may be either Θ, P, or C. By assuming this latitude in the reading I discovered a name which would agree as nearly as it could be expressed in Greek, with KANHΘKOT or KANHCKOT; and should my conjecture prove correct, the discovery of this coin will be hailed as of the greatest value by all who are engaged in the newly developed study of Bactrian antiquity. The coin was at first placed with the Society by Lieut. BURNES, but seeing its value, I thought it but just, after taking impressions and drawings of it, to place it in the discoverer's hands, for the personal satisfaction of numismatologists in Europe. I suppose it to be a coin of KANISHKA, a Tartar or Scythic conqueror of Bactria.

According to Mr. CSOMA DE KÖRÖS, the name of KANISKA occurs in the Tibetan works as a celebrated king in the north of India, who reigned at *Kapila*, which is supposed to have been in *Rohilkhand*, or near *Hardwár*. His reign dates about 400 years after SAKYA, when the followers of the Buddha religion had become divided into eighteen sects (the *Sakya* tribes, or *Sacæ)* under four principal divisions, of which the names both Sanscrit and Tibetan are on record*.

In Mr. WILSON's Chronological Table of the History of *Kashmír* (As. Res. xv. p. 81,) we find "Hushca, Jushca, and *Canishca*, three Tartar princes, who succeeded DOMODARA, in the kingdom of *Kashmír*, either reigning successively or synchronously. They introduced the Buddha religion under a hierarch named NÁGÁRJUNA, and were, according to the *Raja Taringini*, of *Turushca* or *Tatar* origin. The Sanscrit MS. places their reign 150 years before *Sacaysinha* (or SAKYA SINGH), but the learned translator in a note proves that the text was at first misun-

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B. C. 255. THEODOTUS I.
243. THEODOTUS II.
220. EUTHYDEMUS of Magnesia. } Fixed historically by Strabo, &c.

195. APOLLODOTUS SOTER.
MENANDER NIKATOR. } Alluded to by Plutarch Trogus and Arrian, their coins prevalent in Baroach, A. D. 200.

HELIOCLES DIKAIOS. } On the authority of Visconti and Mionnet, from a single medal.

DEMETRIUS. } Son of Euthydemus, doubtful if he reigned in Bactria.

181. EUCRATIDES I. } Artemidorus calls him the "Great King."

146. EUCRATIDES II. } Murdered his father and was himself slain.

125. Destruction of the empire by the Tartars and the Scythians or Sacæ.

* CSOMA's Life of SAKYA, MS.

derstood, and that the passage intended to express "150 years *after the emancipation* of the Lord SAKYA SINHA."

The epoch of SAKYA, (the fifth BUDDHA, or GOUTAMA,) is determined by concurrent testimony of the Ceylonese, Siamese, Pegue, Burmese, and Chinese æras, which are all founded on the birth or death of the Buddha legislator, and, though all differing more or less, concur in placing him between the limits of 544 and 638 years B. C.: the Raj Gúrú of Asam, a Pundit well versed in Buddha literature, fixes the *Nirwan* or emancipation of SAKYA-MUNI in 520 B. C.* Taking then from this epoch an interval of four hundred years to the reign of KANISKA, the latter would fall near the end of the second century B. C. We know from other sources, that the overthrow of the Bactrian dynasty by the Scythian or *Sakyan* tribes happened in 134 B. C. (125 by SCHLEGEL.) The present coin therefore confirms the fidelity of the *Raja Taringini* as a historical work, and leaves no doubt of the epoch of SAKYA.

Mr. WILSON finds grounds for throwing back the termination of the reign of ABHIMANYA CANISHCA'S successor, from B. C. 118, as given in the *Raja Taringini*, to B. C. 388, because "*Kashmír* became a Buddha country under Tartar princes *shortly after* the death of SAKYA;" but from Mr. CSOMA'S subsequent examination of the Tibetan sacred books, in which the three periods of their compilation are expressly stated; "first, under SAKYA himself (520—638 B. C.) then under ASHOKA, king of *Pataliputra*, 110 years after the decease of SAKYA, and lastly by KANISKA, upwards of 400 years after SAKYA"—little doubt can remain that the epoch as it stands in the *Raja Taringini* is correct.

There are other circumstances connected with the Bactrian coins, which tend to confirm the supposition of a Buddhist succession to the Greek princes. In the first place, the reverse ceases to bear the formerly national emblem of the Bactrian horseman with the Macedonian spear, and in its place a sage appears holding a flower, and invariably having a glory round his head, proving him to be a sacred personage†; secondly, although upon the first coins of the dynasty we find the inscription in Greek characters—(a custom which prevailed under the Arsacidæ also, and continued under the first Sassanian princes;) still upon coins of the same device, but probably of later fabric, we find the same kind of character which appears upon the Delhi and Allahabad pillars:—the same which is found at Ellora and in many ancient caves and temples

* Orient. Mag. iv. 108.

† (See Col. TOD'S Coins 11, 14; Mr. WILSON'S Plates, fig. 1, 2, 6, 7; and this Journal, Plate ii. figs. 17, 18.)

of central India, and is held in abhorrence by the Brahmans, as belonging to the Buddhist religion*.

I need not repeat Mr. Wilson's opinion, drawn from other grounds, that the *tope* of *Manikyála*, in the neighbourhood of which these coins are found, is a Buddhist monument, but it receives much confirmation from the discovery of this coin of the Sakyan hero Kanishka.

Having thus far endeavoured to reconcile the coin before us, and others of the same class to the *Sakyan* dynasty, to which the term Indo-Scythic very aptly applies, we may reasonably follow up the same train by ascribing the next series, which exhibit, on the reverse, a Brahmaní bull, accompanied by a priest in the common Indian *dhotí*, as the coins of the Brahmanical dynasty which in its turn overcame the Buddhist line. Colonel Tod includes these coins in the same class as the last, and adduces his reasons for referring them to Mithridates, or his successors, of the Arsacidan dynasty, whose dominions extended from the Indus to the Ganges, and to whom Bactria was latterly tributary. Greek legends "of the King of kings," &c. are visible on some, and what he supposes to be *Pehlevi* characters on the reverse: but I incline to think these characters of the Delhi type, and the Bactrian Monogram should decide their locality. Mr. Wilson and Schlegel, both call them Indo-Scythic, and the latter, with Col. Tod, names the figure "Siva with his bull *Nandi*†." Mr. Schlegel thinks it curious that such marks of the Hindú faith should appear on these Tartar coins, but considering the Indian origin of the Sacæ, does not this rather prove the same of their successors, instead of their Tartar descent? It is more curious that the fire-altar should continue on all of the series, but the fact of its being a fire-altar at all is still matter of great uncertainty.

* See translation of portions of the Salsette and Ellora inscriptions by Major Wilford, As. Res. v. 140, which shews them all to refer by name to Sakya. Mr. A. Stirling, As. Res. xv. 314, says of some similar inscriptions on the *Udaya Giri* hill in Orissa. "The Brahmans refer the inscription with horror and disgust to the time when the Buddhist doctrines prevailed. I cannot however divest myself of the notion that the character has some connection with the ancient *Prakrit*, and I think an explanation is to be looked for only from some of the learned of the Jain sect." What has become of the key to this and other ancient Sanskrit alphabets, which Wilford says he fortunately discovered in the possession of an ancient sage at Benares?

† "Ce qui me parait la circonstance la plus remarquable dans ces medailles, ce sont ces preuves du culte brahmanique adopté par les rois Tartares. Ils regnaient donc certainement sur des provinces ou ce culte était etabli."—*Journal Asiatique, Nov.* 1828.

Fig. 16. Copper coins of this device are met with throughout Upper Hindústan:—they constitute the third series of Colonel TOD's plate, and some in his possession have decided Greek characters upon them. On the *obverse* is the same warrior with spear and altar. On the *reverse* is what he supposes to be a priest about to sacrifice the bull; but in the coin before us the *dhotí* is so precisely the costume of the Brahmans, that it inclines rather to look upon the animal (especially as he has the hump) as the sacred bull of this country, denoting the prevalence or predominance of the Brahmanical faith in the Indian dependencies of MENANDER or EUCRATIDES' dominion.

Fig. 18. This type of coin is if any thing more common than the last: and the inscriptions are no longer Greek; but either of the unknown character of the Delhí column or genuine Hindí. The figure astride upon the elephant is always much out of proportion, and the *Raja* with the altar more rudely executed. The elephant is, like the horse, preserved in subsequent coins of the Hindús; thus

Fig. 17 represents one of these procured by Lieut. BURNES in his tour. The same device is still common in Southern India. The form of the Nagrí characters on this and fig. 14 agrees with those on copper grants of land 7 or 800 years old.

I do not mention Lieut. BURNES' Muhammedan coins, as it is better to keep them distinct from the present engraved series, to which I may have soon to add a valuable supplement, containing a selection from Dr. SWINEY's and General VENTURA's discoveries. My task increases upon me daily, but I shall be amply rewarded if my humble notice of the discoveries of others shall, by connecting them with ancient history, eventually turn these most interesting reliques to the true end of numismatic study.

VI.—*Astronomical Observations at Barelly. By* H. S. Boulderson, *Esq.*

The 4th No. of the Journal of Science for Oct. 1832 contains observations of the transit of Mercury in May last made at Hull, Lat. 53° 45′ 57″ N. Long. 1′ 21″ W. As the longitude of the place of observation at Hull is probably very correct, this gives the means of gaining to some degree of certainty the longitude of the few places in India where the transit was observed. There is a considerable uncertainty in the place of Mercury at the transit. At least the times of conjunction in AR. gained from the elements given in the Naut. Alm.

Pl. VII

BACTRIAN COINS.

and those in the Berlin Ephemeris differ considerably. With a view only to finding difference of longitude between places where the transit was observed—this is of no great consequence. The difference of declination of the Sun and Mercury at 0′ in AR appears to be about 9′2″ .174, and this has been assumed, as also the following quantities :

Mercury's Eq. Hor. Parallax,	15″.362	Sun's	0′	8″.5
Semidiameter,	5.75	,,	15	52.35
Mercury's Hor. Mot. in AR.	118.7	in decln.	1′	8″.4
Sun's ditto.....	+ 224.5	Sun's	+ 0	42.7

The Semr. of Mercury obtained from the elements in the N. A. is 5″.8 In the Berlin Ephemeris it is given 5″.37. The quantity 5″.75 has been taken as the result of the measurement of the planet's diameter at Geneva, contained in the 3rd No. of the above Journal.

	May.	h.	m.	s.
The internal ingress of ☿ observed at Hull, mean time,	4th,	21	2	21
Add time from conjunction in AR.....		2	21	9.44
Mean time of ☌ in AR at Hull.....	4th,	23	23	30.44
The internal ingress observed at Barelly..	5th,	2	20	58
Add time from conjunction in AR.....		2	21	34.22
Mean time of ☌ in AR at Barelly.....	5th,	4	42	32.22
The internal ingress observed at Chupra.....	5th,	2	42	18
Add time from ☌ in AR.....		2	21	39.286
Mean time of ☌ in AR at Chupra..	5th,	5	3	57.286
The external ingress observed in Calcutta..	5th,	2	53	24.2
Add time from ☌ in AR.....		2	24	58.38
Mean time of ☌ at Calcutta.....		5	18	22.58

Deducting 1 m. 21 sec. the longitude of Hull from the respective differences, the following longitudes from Greenwich result :

	h.	m.	s.	
Barelly..	5	17	40.78	
Chupra...	5	39	5.85	
Calcutta.	5	53	31.14	(Surveyor General's Office).

The observations at the ingress at Geneva are stated to have been rather uncertain. The internal ingress gives a wide discrepancy, the external ingress gives for the mean time of ☌ in AR May 4th, 23 ^{h} 49 ^{m} 22 ^{s} ·62—a difference of longitude from Hull 25 ^{m} 52^{s}· 25 ^{m} 52 ^{s} ·18, or from Greenwich 24 ^{m} 31 ^{s} ·18. The longitude of the observatory at Geneva (Gautier's) is given 24 ^{m} 35 ^{s}

The longitude of Barelly from the mean of 8 occultations of stars in Oct. and Nov. last is 5 h. 17 m. 40 s. 56 E. of Greenwich.

By the mean of the 2 largest stars σ Sagitarii and γ Capricorn it is 5h 17 m 39 s ·68.

The following emersions of Jupiter's first Satellite were observed at Barelly in 1832.

	Mean time.	Difference from *Greenwich.*	Mean.
	h. m. s.	h. m. s.	
October 19th,	7 52 7	5 17 39	
26th,	9 47 48.9	5 17 40.9	h. m. s.
Nov... 4th,	6 12 48	5 18 0	5 17 35.7
11th,	8 8 15.7	5 17 24.7	
Dec... 4th,	8 24 54	5 17 14	

From the Jour. As. Soc. for Nov. 1832.

	h. m. s.	Difference *from Barelly.* h. m. s.
The mean of the observations in Calcutta (excluding the last) on the 19th Oct. 1832, gives the emersion..	8 28 3.5	0 35 56.5
The mean of the three first on the 26th Oct. gives the mean time of emersion of 1st Satellite..	10 23 27	0 35 38.1
The observation on the 4th Nov.	6 48 38	0 35 50
The mean of the four observations on the 11th Nov. gives the emersion of 1st Satellite..	8 44 5.5	0 35 49.8
The difference of longitude deduced from Mercury's transit is..		0 35 50.36

The mean times of the observations of occultations of stars made at Barelly are,

		h. m. s.
October 2nd, No. 2276	Im.	10 21 23.9
7th, No. 2814	Im.	9 1 15
28th, No. 2097	Im.	6 18 44.5
29th, 0 sag.	Im.	5 29 47
Nov. 1st, γ Capric.	Im.	8 28 44.7
Nov. 3rd, No. 2773	Im.	8 37 16
,, No. 2778	Im.	10 8 37.3
,,	Emer.	10 40 12.4

VII.—*Notice of a Native Sulphate of Alumina from the Aluminous Rocks of Nipál. By* J. Stevenson, *Esq. Superintendent H. C. Saltpetre Factories in Behar.*

This mineral was purchased by myself from a Nipál merchant. It is called by the natives of Tirhút, *Sulajít* (rock sweat), and is used by the native doctors of this country to cure green wounds, or bruises. It is sold at the rate of two rupees weight for a rupee.

Description.

In small light lumps, colour brownish white—externally anhydrous —internally semi-crystalline—fracture slightly fibrous, with a lustre resembling asbestus—porous—containing small cavities, lined with scarcely perceptible needle-like crystals—adheres a little to the tongue. Taste acidulous saline—soluble in twice its weight of distilled water. Specific gravity not ascertained, but probably not quite double the weight of distilled water. Friable.

Examination by Tests.

Turmeric paper, ...	No change.
Litmus do.....	Changed the blue to pink.
Muriate of Barytes,.....	Copious precipitate of Sulphate of Barytes.
Nitrate of Silver, ...	No change.
Oxalate of Ammonia, ...	Do. do.
Prussiate of Potass, ...	Precipitate of Prussian-blue, but not copious.
Solution of Sub-carbonate of Potass,	Copious Precipitate of Alumina.

A careful analysis of this mineral produced the following result :

Sulphate of Alumina, ...	95.0
Peroxide of Iron, ...	3.0
Insoluble matter (silex), ...	1.0
Loss, ...	1.0
	100.0

VIII.—*Notice of a Native Sulphate of Iron from the Hills of Behar, and used by Native Dyers of Patna. By Ditto.*

Description.

In lumps—colour, externally, light yellow—internally, light grey,— with a tinge of blue fracture, earthy and rough granular—porous, slightly glistening, anhydrous—easily frangible, soft—not ponderous —adheres slightly to the tongue—taste a little acid, leaving a sensation of sweetness. Very friable—specific gravity not ascertained, but probably about 1,800.

Examination by Tests.

Litmus Paper,	Changed the blue to yellowish red, afterwards to brown.
Turmeric do.	No change.
Muriate of Barytes,	Copious precipitate of Sulphate of Barytes.
Nitrate of Silver,	No change.
Oxalic Acid,	A slight cloudiness.
Prussiate of Potass,	Copious precipitate of Prussian-blue.
Liquid Ammonia,	Copious precipitate of Magnesia, tinged with oxide of Iron.

A careful analysis of this mineral produced the following result :

Sulphate of Iron,	39.0
Peroxide of Iron,	36.0
Magnesia,	23.0
Loss,	2,0
	100.0

NOTE.—The above two mineral substances are the natural productions of Behar and Nipál. They might be used largely in the arts, especially in the manufacture of Prussian-blue, Calico printing, and Dyeing ; I am not aware that they have been noticed by European Chemists. If they have, the notice has escaped my reading. I am informed that they may be had in large quantities, the Sulphate of Iron in particular. The specimen which I operated upon was purchased from Patna Bazar, where depôts of this mineral are established.

IX.—*Notice of Analysis of the Ashes of four Indian Plants. By Ditto.*

The plants were subjected to calcination, similar to the method used to make kelp in Scotland, and the quantity of alkali ascertained by Brande's process. 100 parts contained as follows :

Names of Plants.	Alkali per cent.	Muriate of Potass per cent.	Sulphate of Potass per cent.	Insoluble matter per cent.	Remarks, &c.
Spent Indigo plant,	7.0	3.0	15.0	75.0	In the neighbourhood of Singhea.
Poppy or Opium plant,	7.0	22.0	20.0	51.0	From Tirhút.
Tobacco plant,	3.0	9.8	11.0	76.0	Ditto.
Gada Purnah plant*.	10.0	7.0	11.0	72.0	Abundant in Tirhút.

* The latter plant, called by the Natives of Tirhút *Gada Purna*, is much used by the *Dhobis* or native washermen. They collect and subject it to the operation of burning, using the ashes instead of soap. I am not acquainted with the botanical name of this plant, having never seen it in flower. It is almost unnecessary to add, that the alkali from the above plants is sub-carbonate of potass.

Singhea, in Tirhút, 2nd May, 1833.

X.—*Proceedings of the Asiatic Society.*

Wednesday Evening, 26th June, 1833.

The Hon'ble Sir Edward Ryan, President, in the Chair.

The proceedings of the last meeting were read.

Mr. C. E. Trevelyan and Mr. E. J. Ravenshaw, proposed at the last meeting, were elected Members of the Society.

The Secretary submitted the following Report of the Committee appointed on the 27th March, for determining the best mode of continuing the publication of the Asiatic Researches.

Report of a Special Committee appointed on the 27th March, 1833, *to consider the best mode of publishing the future volumes of the Asiatic Researches.*

The statement which Baboo Ram Comul Sen, the native Secretary, submitted to the Society, at the Meeting of the 27th March, 1833, and which led to our appointment as a Special Committee, was calculated to discourage the printing of the Society's Researches altogether, by shewing that they had been unsuccessful in a pecuniary point of view, and had absorbed in the course of many years a large portion of the Society's funds. To this argument we cannot on the fullest consideration give our assent. The reputation of the Society, its character, nay indeed its very existence depends upon the publication of its Researches, and this is the chief object of the contributions of its members. Neither can we coincide with the Baboo in recommending, that the Transactions, if printed at all, should be printed in England. The expence will now be nearly the same in both countries; but the convenience of reference to authors, and of supplying matter for the current volume; and of arranging the papers while in the press, are fully sufficient motives for giving a preference to printing in India: and the pride of a national and independent existence should still further determine us to this course; the moment we transfer the printing of our Researches to England, we commit an act of *felo de se*, and merge at once into the subordinate character of a branch of the London Asiatic Society, as has been the fate of the Literary Societies of the two sister presidencies.

With regard to our present means of maintaining the publication of our Researches, we may state, that the present income of the Society is Sa. Rs. 400 per mensem: out of which at least 100 rupees may be set apart to cover printing expences, and this in the three years usually devoted to each volume will be ample for plates as well as letter-press. But as every measure of economy is called for, under existing circumstances, we strongly recommend that the octavo form be substituted for the quarto volume.

It will be remembered, that an octavo edition of the first twelve volumes has already been published in England, and this has probably found a more extensive circulation among the public than the badly printed volumes of the Calcutta edition. The new series therefore will fall in very well with the English edition, and be the cause of an increased sale. It is possible that some English Bookseller may undertake to reprint the intermediate volumes, 13 to 18, in octavo, to complete the series.

We concur in opinion, that the Medical Society should be called upon to contribute to our funds, for the use of that portion of our apartments permanently occupied by their Library, &c. and we recommend that an application be addressed to them to that effect.

It has been suggested by one of our Members that we should make the Museum a source of income, by charging for the admission of strangers to inspect it: but the majority of us deprecate the principle of such a charge, as tending to close the doors of knowledge to many who may be least able, though most willing, to seek it in our Library and Museum.

We are inclined however to approve of the suggestion of another Member, that a composition for the quarterly subscriptions should be allowed. The amount of composition at the Royal Society is fixed at 50 guineas, or ten years' subscription.

With reference to the more limited scale of the Asiatic Society, and the higher ratio of its subscriptions, we think that Rupees 500 or 32 goldmohurs, which would be seven years' subscription, including the admission fee, might be adopted as the amount of composition for new Members; with a proportionate scale of rates for those who are already Members, should they desire to compound for their future subscriptions.

June 19, 1833. (Signed) JOHN TYTLER,
R. BENSON,
J. R. COLVIN.

Resolved, 1. That the Committee's recommendation with regard to the octavo Edition be adopted.

2. That the Secretary communicate with the Medical Society respecting the proposed contribution to our funds.

3. That the Society approve generally of the suggestion for the optional composition of the quarterly subscriptions, and that Dr. J. TYTLER, Baboo RAM COMUL SEN, and the Secretary be requested to draw up a table of the scale of payments, founded on the value of life and period of residence in India, as shewn by the Societies' subscription list.

The substance of a report from the Committee, on the boring experiment, was also communicated; but, as it had not received the signatures of all the Members, the discussion of the subject was adjourned till the next meeting.

Library.

The following books were presented:

Transactions of the Society of Arts, &c. vol. xliv. pt. 1. *By the Society.*

Archæologia, vol. xxiv. *By the Antiquarian Society of London.*

Read a letter from the Rev. W. YATES, to the President, presenting his metrical translation, in manuscript, of the *Nalodaya*, or History of King NALA, a Sanskrit Poem; with a copious analysis, and remarks on the various kinds of Sanskrit alliteration.

Resolved, that the work be made over to the Calcutta Committee of the Oriental Translating Fund.

Museum.

Read correspondence with W. H. MACNAGHTEN, Esq. Chief Secretary to Government, respecting the transfer of the large statue of GAUTAMA, deposited with the Society in 1825, to the Burmese Envoys; the Government agree to defray the expence incurred by the Society in setting the statue upon its pedestal.

A spotted Deer, and an Elk, with a pair of his horns, were presented by JOHN BELL, Esq.

A further specimen of fossil bone, and a mass of the fossil shell conglomerate of Jabalpúr, were presented by Dr. SPILSBURY.

Antiquities.

Read a further note on one of Lieut. BURNES' coins, by the Secretary. Also a notice on the origin of the *Sakya* sects, by M. A. CSOMA DE KOROS.

XI.—*Miscellaneous.*

Synopsis of the Winds, Weather, Currents, &c. between Bombay and Suez, throughout the Year. By Captain J. P. Sanders, *&c. Bombay.*

Month.	Winds and Weather, 1° off Bombay, from thence to Mocha.	Winds and Weather between Mocha and Coseir.	Winds, &c. between Coseir and Suez.	Currents between Bombay and the Red Sea.	Currents in the Red Sea.	Remarks.
Janry.	Pleasant land and sea breezes, extending 50 or 60 miles off shore, when N. E. winds to N. N. W. may be experienced; moderate breezes from the N. E. from thence to the Straits of Babelmandel, where a southerly wind is experienced.	From Mocha to Lat. 19° N. the winds are strong from the southward; from thence to Coseir, frequent fresh northwesters, and moderate southerly winds, for 2 or 3 days. Fine pleasant weather.	Strong winds from N. W. and N. N. W. interrupted by occasional breezes from the south, lasting two or three days.	Approaching Socotra, the current sets S.W. running more to the westward on nearing the Straits of Babelmandel.	Generally setting to the southward, when N. W. winds prevail.	In Mocha roads the fresh southerly winds cause a very high sea, which renders communications with the shore difficult. In Aden, Bark Bay, Juddah, and Suez, fine weather and smooth water. In crossing from India, to the Red Sea, a long swell may be expected from N. E.
Febry.	Land and sea breezes, generally as in January, but occasionally moderate north westers, blowing home to the Malabar Coast. As far as the Straits fine strong breezes from the E. N. E. and N. E. then southerly winds. Fine pleasant weather.	Strong north-west and light southerly winds.	Same as in January.	Same as in January.	Same as in January.	Same as in January.
March,	Land and sea breezes less regular than in February, moderate breezes from the N. W. more prevalent. From Bombay to Mocha, wind not so strong as in February; swell still continues.	Wind north-westerly, as strong as in February; little or no southerly wind.	Do., with the exception of south winds being less frequent in the sea of Suez.	Same as in January.	Same as in January.	Same as in January.
April,	Variable weather, with moderate winds from N. W. to west, and occasional intervals of land & sea breezes; from thence to Mocha, weather occasionally unsettled, winds extremely variable, and blowing occasionally from every point. On the Arabian shore N. E. and easterly winds prevail, as far as the straits, then southerly winds.	Southerly winds seldom extending beyond Gebel Tor, while north-west winds become more frequent, between Juddah and Coseir.	Same as in March.	Current begins to incline to the N. E. near Socotra.	Same as in January.	Same as in January, but no swell.

Synopsis of the Winds, Weather, Currents, &c. between Bombay and Suez, throughout the Year. By Captain J. P. Sanders, *&c. Bombay.*

Month.	Winds and Weather, 1° off Bombay, from thence to Mocha.	Winds and Weather between Mocha and Coseir.	Winds, &c. between Coseir and Suez.	Currents between Bombay and the Red Sea.	Currents in the Red Sea.	Remarks.
May,	Cloudy unsettled weather with breezes from west to N. W. towards the latter, and occasional squalls from the southward; from thence to Mocha, westerly winds prevailing; near the Arabian shore, more southerly. In the vicinity of Socotra, variable winds prevail.	Winds variable, north-westers occurring more frequently, between Juddah and Mocha. Between Juddah and Coseir north-westerly winds most prevalent.	Wind strong from N. W. and N. N.W. occasional squalls from the S. E. of no long duration.	Between Socotra, and the Arabian Coast, current sets to the northward and eastward.	Same as in January.	In Mocha roads, strong either N. or S. winds causing a confused swell, with intervals of land and sea breezes. In Coseir the wind blows at times strongly from the N. W. causing a constant swell, from the exposed state of the anchorage. Crossing from India, little or no swell.
Jnne,.	Squally from the N. W. and S. W., with heavy rains and cloudy weather, the monsoon generally commencing between the 6th and 16th; from thence to Mocha, fresh gales from the W. S. W. and S. W. extending to the Meridian of Guardafui; from thence moderate westerly winds prevail, to the Straits, where light N.-westerly airs are met with.	Near Mocha, land and sea breezes in the early part of the month; occasionally north-westers with rain. Between Juddah and Coseir north-westers prevail.	Same as in May.	Near Socotra, current sets strong to the E. and on the Bombay bank, when the monsoon has set in, a northerly current will be experienced.	Same as in January.	Light northerly winds and sultry weather in Mocha Roads. At Juddah, land and sea breezes, when the north-westers are not blowing. A very high sea would be experienced, in crossing from India, especially near Socotra.
July,	Off Bombay, strong westerly winds, and squally; beyond, strong gales from the W. S. W. and S. W. extending to the meridian of Guardafui; from thence westerly winds of moderate strength prevail, as far as Babelmandel, when light north-westerly airs are met with.	North-westerly winds prevailing, occasionally strong. Southerly winds seldom blowing, and of short duration.	N. W. winds prevalent, and blowing with great violence.	On the Bombay bank, a southerly set. Between the Arabian Coast and Socotra are strong and variable; shift suddenly; run 50 or 60 miles per day.	Variable and partial, governed by the turns of the Coasts, and generally setting to the southward, with N. W. winds.	At Mocha, land and Sea breezes prevail, when the weather is settled. Crossing from the Red Sea, a high sea would be experienced.
August,	Moderate breeze and cloudy; squalls less frequent near Bombay. Between Bombay and Mocha, the	Near Mocha, variable winds; towards Coseir northerly winds gene-	Same as July.	On the Bombay bank, the current the same as in	Same as July.	At Mocha, the winds and weather the same as in July, and at Coseir and Suez, north-

	same as in July, with the exception of the wind being more moderate.	rally met with.		July. Between the Arabian Coast and Socotra the current sets to N. and N. E.		westers still prevailing: at Jnddah, pleasant weather, occasional N.-westers. Crossing from India a high sea may be expected, especially at the mouth of the Gulph.
Sept.	Winds variable from the westward, sometimes light airs from N. E., near Bombay. From Bombay to Mocha, for the most part westerly, with occasional squalls from the W. S. W. and N. W.	Variable winds, with occasional breezes from the north-west, lasting many days.	Weathermore variable, than in July.	Variable.	Same as July.	At Mocha, light southerly winds prevail: sultry weather; smooth water. Crossing from India, in the early part, a westerly swell; little or no sea at the latter part of the monsoon.
October,	N. E. winds extend about 40 or 50 miles from the Coast of India, when E. N. E. winds occur; thence to Mocha, moderate winds from N. E., extending as far as the Arabian Coast. when it changes to E. S. E. and S. E. At the entrance of the straits, south winds and unsettled weather.	Southerly winds now set in near Mocha, and at times near Coseir; at the latter place, north westers still prevail, at times strong, and lasting several days.	Moderate from the northward. Weather unsettled.	Variable.	Same as July	Crossing from India, no sea will be encountered. At Mocha, light winds and sultry weather.
Nov....	North-westerly winds prevalent off the Coast of India, from thence to Mocha E. N. E. and N. E. winds. At the entrance of the straits a southerly or south easterly wind, with unsettled heavy weather.	Southerly winds prevail near Mocha, and light S. winds at Coseir: with north-westers sometimes stroug at Coseir. North-westers prevalent at Coseir, sometimes strong.	Same as in October.	Approaching the Red Sea, the current now sets S. W. and west.	Same as July.	Southerly winds now set in at Mocha, and more frequent at Juddah, Coseir, and Suez. In crossing from India, no sea will be experienced.
Dec.....	Land and sea breezes extend about 50 miles, when N. E. to N. N. W. winds may be experieuced, the N. E. monsoon now being set in; from thence to Mocha, the same as in Jannary.	From Mocha to Lat. 18°. N. southerly winds more frequent in the northern parts of the sea of Suez, lasting from 2 to 5 days, some times blowing fresh above 18°.	Variable and unsettled.	Same as in November; the westerly current near the Red Sea encreasing in strength.	Same as Jnly.	Fresh southerly winds, with a heavy swell in Mocha Roads. Pleasaut, cold weather at Coseir and Suez. Crossing from India, little sea will be incountered.

Meteorological Register, kept at the Assay Office, Calcutta, for the month of June, 1833.

Day of the month.	Barometer reduced to 32° Farh.				Thermometer in the Air.					Depression of moist-bulb Thermometer.				Hair Hygrometer.		Rain.	Wind.			Weather.		
	At 4½ A.M.	At 10 A.M.	At 4 P.M.	At 10 P.M.	Minimum at 4½ A.M.	At 10 A.M.	Max. by Reg. Ther.	At 4 P.M.	At 10 P.M.	At 4½ A.M.	At 10 A.M.	At 4 P.M.	At 10 P.M.	At 10 A.M.	At 4 P.M.	Inches.	Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
1	,481	,500	,424	,468	87,5	91,4	99,5	94,7	87,3	4,8	5,6	8,2	3,9	95	88		E.	e.	S.	rain.	cloudy.	clear.
2	,434	,489	,404	,437	87,5	92,5	100,	94,3	87,2	6,7	6,8	7,3	4,0	92	90		s. e.	s.	S.	cumuli.	fair.	cum. cir.
3	,384	,471	,404	,489	87,8	91,7	99,	95,6	87,1	4,8	6,5	8,5	3,8	94	88		S.	s.	S.	cir-cum.	do	scud.
4	,447	,521	,470	,546	86,8	92,5	100,	95,7	87,5	4,4	5,8	8,2	4,5	95	89		S.	s. e.	S.	cir. strat.	cum.	do
5	,509	,596	,508	,551	85,7	92,4	98,	96,0	87,3	3,7	7,5	9,7	4,7	91	86		S.	s.	s.	haze.	do	clear.
6	,512	,611	,472	,533	82,2	91,8	97,5	96,5	88,1	5,0	7,3	11,5	5,7	92	83		e.	s. e.	o.	nimbi.	cum. strat.	do
7	,472	,504	,428	,488	84,0	92,7	98,	96,4	88,2	7,6	7,8	11,0	4,5	89	84		s.	e.	s. e.	cirri.	clear.	do
8	,535	,550	,442	,607	87,1	93,0	100,	97,2	88,3	3,0	7,5	10,1	9,4	89	86		s. e.	s.	S. E.	nimbi.	do	do
9	,606	,687	,607	,732	86,0	93,7	96,	95,8	79,1	4,2	7,5	10,	4,2	90	87		s.	s.	n. w.	haze.	do	hard.raing.n.wr.
10	,727	,735	,730	,793	79,1	90,4	93,	88,7	77,8	3,9	6,6	7,5	4,2	92	89	1,08	o.	s.	S.	cir. strat.	do	rain,2n.wrs.
11	,682	,756	,636	,666	81,3	88,3	93,5	92,4	86,7	5,5	5,5	6,8	6,4	94	92	,90	S.	s.	S.	cumuli.	do	banks s. e.
12	,588	,650	,528	,587	85,0	89,7	95,7	93,4	86,2	5,0	5,7	16,3	4,7	93	85		S.	s.	S. E.	clear.	do	clear.
13	,563	,592	,461	,548	86,1	90,4	96,	95,2	87,	5,4	5,8	7,6	3,8	95	90		S.	S.	S. E.	nimbi	do	do
14	,506	,552	,484	,559	86,2	90,7	95,7	94,8	87,7	5,2	5,8	8,5	5,6	95	88		S.	S.	S.	hazy.	do	do
15	,535	,666	,535	,628	86,7	92,0	95,	93,4	83,	5,4	6,0	7,5	6,7	93	89		S.	S.	S.	clear.	rain.	slight.
16	,613	,685	,571	,686	83,2	91,6	94,5	94,0	86,8	3,2	7,2	9,5	4,8	92	87	0,18	o.	o.	S. S.	nimbi.	do	clear.
17	,615	,665	,550	,588	85,	90,5	94,0	94,0	84,5	3,6	6,4	9,4	5,2	93	86		s.	s.	s.	cumuli.	cumuli.	threatening
18	,522	,544	,420	,487	85,2	90,4	94,3	93,6	86,0	4,7	6,2	8,5	9,8	94	88		s.	s. e.	S.	stratus.	overcast.	clear.
19	,449	,476	,383	,435	83,7	91,1	100,0	95,0	87,	5,9	9,4	10,5	4,9	87	82		o.	s.	S.	do	cumuli.	do
20	,377	,450	,364	,421	86,3	92,5	100,2	94,1	87,5	5,6	8,9	8,4	5,7	89	89		s.	S.	S.	do	do	do
21	,405	,462	,376	,455	85,7	90,6	98,5	95,4	87,5	8,7	9,0	6,6	3,9	90	87		s.	o.	s.	banks.	rain.	do
22	,428	,480	,441	,490	85,2	90,7	95,7	88,6	82,0	10,2	5,5	7,1	2,8	91	80	0,08	s.	s.	s. e.	rain.	overcast.	do
23	,473	,440	,472	,477	80,4	90,5	96,2	89,	81,0	2,2	5,7	6,2	5,7	92	82		E.	NE.	E.	haze.	clear.	do
24	,459	,490	,443	,504	81,0	90,0	97,2	91,5	82,5	2,2	7,2	7,0	3,8	90	90	0,10	o.	s. e.	o.	clear.	do	sq.cum.str.
25	,457	,505	,432	,500	82,6	87,8	90,	87,0	81,7	2,4	5,8	4,0	2,9	95	95		o.	N. W.	o.	cir. cum.	fair. rain	gentle.
26	,498	,556	,471	,533	80,2	86,7	90,	89,2	83,5	2,4	4,4	4,6	4,1	96	94	0,36	o.	s.	s. o.	nimbi	do	clear.
27	,498	,605	,521	,578	80,2	86,6	88,5	87,5	84,0	2,2	4,0	4,7	3,2	95	95	0,22	o.	o.	o.	cumuli	do	do
28	,516	,628	,501	,593	84,0	87,7	92,7	91,7	84,3	4,0	5,5	8,3	3,2	94	89		S.	S.	S.	clear.	do	cirri.
29	,528	,612	,521	,570	84,2	87,7	92,5	89,5	81,2	3,7	4,8	4,7	5,5	95	95		S.	S.	N. S.	cum strat	do	n. cirri.
30	,518	,596	,530	,553	84,0	88,7	93,	85,7	84,2	4,0	4,5	4,6	4,5	95	94	0,12	S.	S. E.	S.	overcast.	do	haze.
Means	29,511	,569	,485	,550	84,3	90,5	95,8	92,8	85,1	4,6	6,4	8,1	4,9	92,5	88,2	3,04	unsteady			cool without rain.		

The Instruments for 10 A. M. and 4 P. M. are suspended in the free air of the laboratory, and the Sunday entries are filled in by interpolation. The Instruments for 5 A. M. and 10 P. M. are observed daily in the south veranda of a house near the Cathedral. The proper corrections for the several instruments used will be furnished at the conclusion of the year.